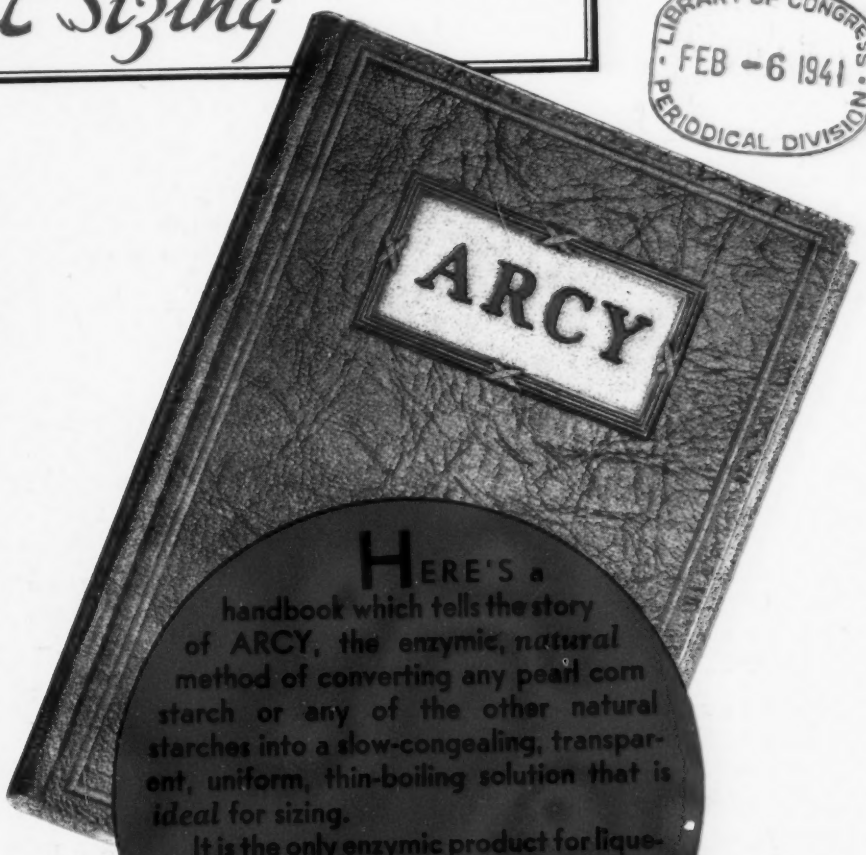
JAN. 1941

COTTON

SERVING THE

Textile Industries

The Story of Successful Sizing



HERE'S a handbook which tells the story of ARCY, the enzymic, *natural* method of converting any pearl corn starch or any of the other natural starches into a slow-congealing, transparent, uniform, thin-boiling solution that is *ideal* for sizing.

It is the only enzymic product for liquefying starch for successful warp sizing which has stood the test of time. The amylase contained in ARCY has characteristic properties and is not found in any other product.

DRAKE CORP'N

Write for Your Copy of this Story Today!

NORFOLK VIRGINIA

Reg. U. S. Pat. Off.

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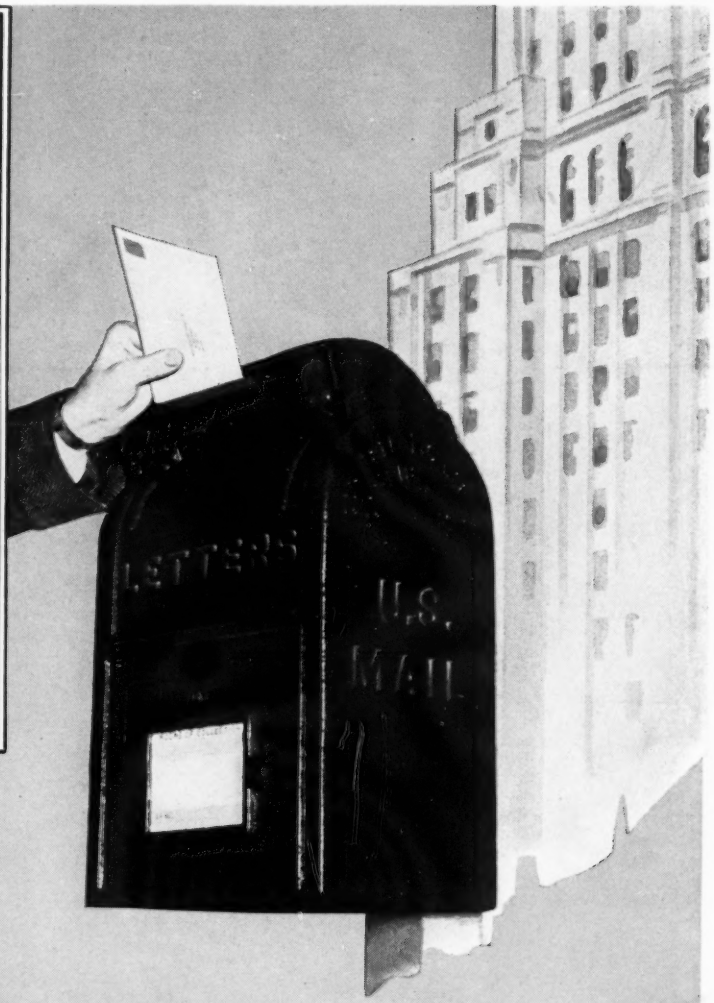
PERIODICAL DIVISION

Solve the CASH PROBLEM *this Simple Way*



Simply mail one short letter to Commercial Factors Corporation —and you've taken the first step toward solving your cash problems! For, in reply, we'll tell you of the advantages of Commercial factoring — the convenient method of obtaining additional working capital.

Through Commercial factoring, you are paid cash for shipments as made. Money that would otherwise be tied up in accounts receivable is freed for productive use. Yet—and note this!—*you continue to extend your usual credit terms.*

Commercial factoring also solves problems of credit and collection. Commercial Factors Corporation assumes full responsibility for collections . . . for credit risks . . . for credit expenses. Your bookkeeping costs are reduced.

Learn how the many benefits of Commercial factoring can be individualized for your business. Put *your* letter of inquiry in the mail today.

COMMERCIAL FACTORS CORPORATION

Fred'k Vietor & Achelis, Inc.
Established 1828

Schefer, Schramm & Vogel
Established 1838

Peierls, Buhler & Co., Inc.
Established 1893

TWO PARK AVENUE, NEW YORK

COTTON is published monthly by W. R. C. Smith Publishing Company, Dalton and Atlanta, Ga., U. S. A.
Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year.
Entered as second-class matter at the Post office, Dalton, Ga., under the Act of March 3, 1879.

Above: Hopedale At right: Atlanta

Draper Warehouses Have Huge Quantities Of 15,000 Different Parts For Your Draper Looms

Each of the three Draper warehouses carries several months supply of each of its stock items—over 15,000 different items in Hopedale, 10,219 in Spartanburg and 8,817 in Atlanta.

When you need parts not carried in stock, one of the Draper plants will make them to your order and ship them to you days sooner than you can get them anywhere else.

Below: Spartanburg

These huge reserve stocks of parts and supplies for your Draper looms are available only in Draper warehouses.

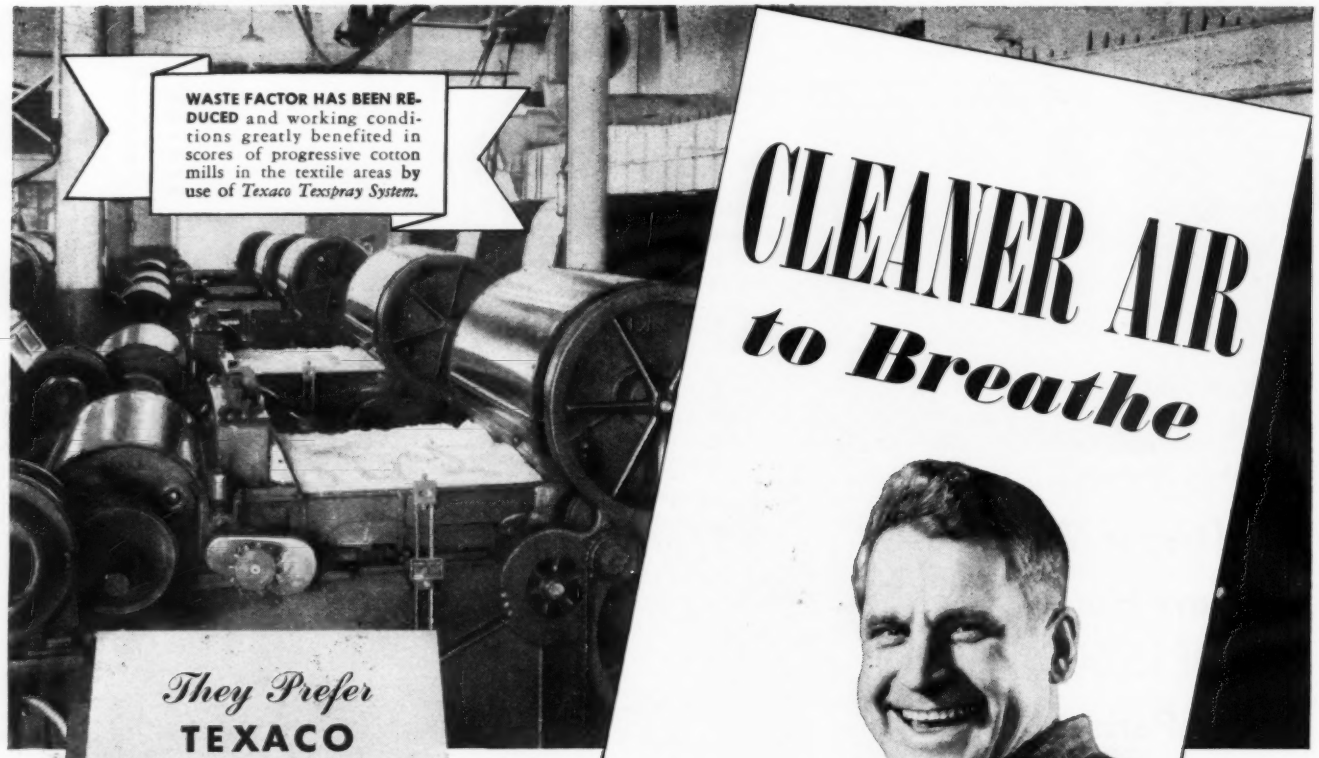
Only Draper Corporation has the facilities to give you such quick service on the parts not carried in stock.

Why Accept Substitute Parts?

DRAPER CORPORATION

Atlanta Georgia Hopedale Massachusetts Spartanburg S C

TS 1550
.C8


WASTE FACTOR HAS BEEN REDUCED and working conditions greatly benefited in scores of progressive cotton mills in the textile areas by use of *Texaco Texspray System.*

CLEANER AIR *to Breathe*

They Prefer
TEXACO

★ MORE SCHEDULED AIRLINE MILEAGE WITHIN THE U. S. AND TO OTHER COUNTRIES IS FLOWN WITH TEXACO THAN WITH ANY OTHER BRAND.

★ MORE BUSES, MORE BUS LINES AND MORE BUS-MILES ARE LUBRICATED WITH TEXACO THAN WITH ANY OTHER BRAND.

★ MORE STATIONARY DIESEL HORSEPOWER IN THE U. S. IS LUBRICATED WITH TEXACO THAN WITH ANY OTHER BRAND.

★ MORE DIESEL HORSEPOWER ON STREAMLINED TRAINS IN THE U. S. IS LUBRICATED WITH TEXACO THAN WITH ALL OTHER BRANDS COMBINED.

★ MORE RAILROAD ROLLING EQUIPMENT IN THE U. S. IS LUBRICATED WITH TEXACO THAN WITH ANY OTHER BRAND.

★ MORE TOURISTS USE TEXACO FIRE-CHIEF GASOLINE THAN ANY OTHER BRAND.

MORE than 75% reduction in dust and fly in the card room, healthier working conditions and increased efficiency for every worker. These are the assured results of installing the right kind of fibre conditioning . . . *Texaco Texspray System.*

Applied within the beater chamber of the pickers, *Texaco Texspray* conditioned fibres draft more easily and uniformly, producing a smoother yarn.

The *Texaco Texspray System* is available only to mills located in recognized textile areas of the U. S. A.

The outstanding performance that has made Texaco preferred in this field has also made it preferred in the fields listed in the panel.

These buyers are enjoying many benefits. You, too, will find important advantages when you use Texaco Lubricants and Fuels.

A Texaco Lubrication Engineer will gladly cooperate in making savings in *your* plant. Phone the nearest of more than 2,300 Texaco distributing plants in the 48 States, or write:

The Texas Company, 135 East 42nd Street, New York, N. Y.

"FIBRE CONDITIONING WITH TEXSPRAY COMPOUND," 32-page descriptive booklet is yours for the asking.

TEXACO DEALERS INVITE YOU TO ENJOY

FRED ALLEN in a full-hour program every Wednesday night. C.B.S., 9:00 E.S.T., 8:00 C.S.T., 10:00 M.S.T., 9:00 P.S.T.

METROPOLITAN OPERA every Saturday afternoon, NBC. See local newspaper for time and station.

TEXACO
REG. T.M.

TEXACO Lubricants
FOR THE TEXTILE INDUSTRY

WE MAKE IT CLEAR

Warner Textile Grade Caustic Soda has made it clear to many prominent mercerizers, bleachers, dyers and finishers that this high quality caustic soda gives excellent results in textile processing.

Low in salt, low in iron, low in turbidity, Warner Textile Grade Caustic Soda is furnished in standard 50% and 70% concentrations – as well as in 73% concentration shipped in specially-lined tank cars. Also flake and solid.

Why not order a car of Warner Textile Grade Caustic Soda for prompt shipment from our conveniently nearby plant at South Charleston, West Virginia?

WARNER TEXTILE GRADE CAUSTIC SODA

OTHER WARNER CHEMICALS

Tetra Sodium Pyrophosphate
Phosphoric Acid
Sodium Phosphates
Bromine
Liquid Caustic Potash
Carbon Tetrachloride
Chlorine, Liquid
Trichlorethylene
Perchlorethylene
Carbon Bisulfide
Sodium Sulfide
Epsom Salt
Hydrogen Peroxide

CHEMICAL **WARNER** COMPANY

DIVISION OF
WESTVACO CHLORINE PRODUCTS CORPORATION

CHRYSLER BUILDING, NEW YORK, N. Y.

CUTS COSTS 1/3

ON TWISTER DRIVES!

THERE'S no profit in shutdowns—as a large North Carolina textile mill discovered. Double construction belts were giving this plant more than its share of trouble on its twister drives. Heavy starting loads, combined with a severe moisture condition, caused excessive stretch and slip, made take-ups frequent. So frequent that production was being hampered.

Then, nearly four years ago, the G. T. M.—Goodyear Technical Man—was called in. Upon his specification a Goodyear 5-ply Thor (seamless) Belt was installed. Slip and stretch were virtually eliminated; output increased accordingly. And—at a cost two-thirds that of its predecessor, this belt is still giving fine service. That's why this mill now has ten twister drives equipped with Thor Belts!

There is a record you can't afford to overlook when considering belting for your drives. The G. T. M. will be happy to point out the advantages of Thor Belts to you. To summon him, write Goodyear, Akron, Ohio, or Los Angeles, California—or phone the nearest Goodyear Mechanical Rubber Goods Distributor.

THE GREATEST NAME IN RUBBER

GOODYEAR

Thor—T. M. The Goodyear Tire & Rubber Company

GTM-Specified

THOR (seamless) 5-PLY BELT

28' long by 3" wide

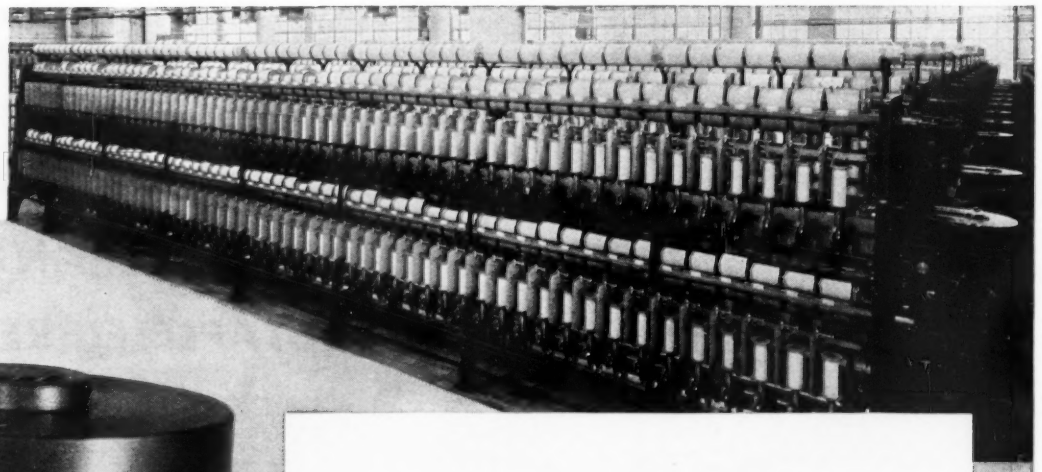
for TWISTER DRIVE

WHITIN MACHINE WORKS

★ WHITINSVILLE, MASS., U. S. A. ★

CHARLOTTE, N. C. ATLANTA, GA.

● U. S. Textile Machine Company's Jumbo Double Deck Twisters are equipped with New Departure Self-Oiling Pulley Bearings for slight additional charge.



Inside It's Always

raining

● Inside this Tension Pulley Bearing a continuous shower of tiny drops of oil keeps balls and races automatically lubricated *just the right amount*—for this "new departure" by New Departure contains its own oil-circulating system, a permanent, built-in feature enabling it to run for a year or more without attention. Thus, infrequent re-oiling is the only service needed.

And, like the many other New Departure ball bearings especially developed for textile machines, this bearing not only brings the advantages of easy maintenance and smooth, friction-free operation, but its freedom from wear assures that these highly desirable qualities are *permanently* retained. New Departure, a division of General Motors, Bristol, Connecticut.

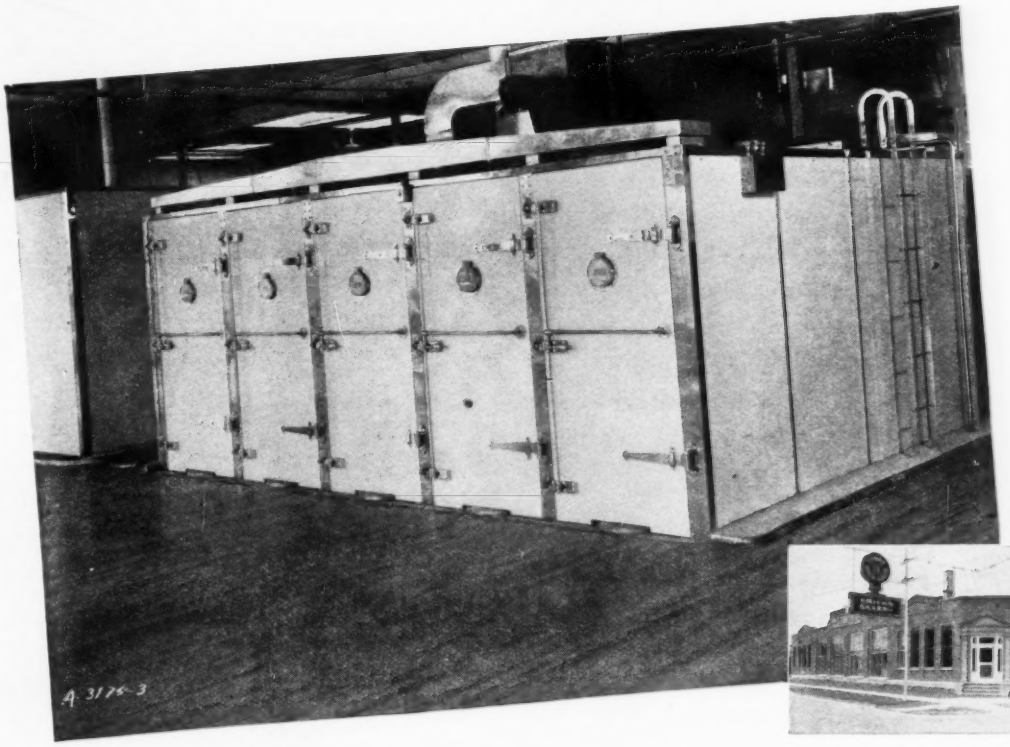
NEW DEPARTURE

PIONEER OF THE SELF-SEALED BEARING

2955

"Such a Floor is Hard to Beat FOR MOST BAKE SHOP PURPOSES"

Says the
W. E. LONG CO.



"In the remodeling of Smith's Bakery, Meridian, Miss., we specified **MFMA** Northern Hard Maple strip floor 33/32" thick because of the excellent results Smith's had had with a similar floor in their Mobile, Alabama, plant. For sanitation, good appearance, and comfort of employes, such a floor is hard to beat for most bake shop purposes."

THE W. E. LONG CO.
Engineering Division

W. E. Long knows floors. So do other bakery engineers of experience. And when engineers nationally agree that Hard Maple "can't be beat" for bakeries, there must be a reason.

In fact, there are several reasons: Warm, dry, resilient comfort that retards fatigue, stretches workers' energy during P. M. hours. Sparkling cleanliness (with brushing alone), sanitation, and a satiny-smooth finish that takes visitors' eyes. Long life, ease of maintenance, lowest cost per year of service to pay dividends to management's good judgment.

There are other reasons, too. But those are the principal reasons far-seeing bakeries floor with Maple . . . tough-fibred, tight-grained *Northern Hard* Maple, assured whenever you specify trademarked **MFMA** Maple.

See our catalog data in Sweet's, Sec. 11/78. Write for photographic folder on Hard Maple Flooring and leaflet on heavy-duty finishes for old or new floors.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1794 McCormick Building, Chicago, Illinois

Floor *with* MFMA Maple

REG. U. S. PAT. OFF.

(NORTHERN HARD)

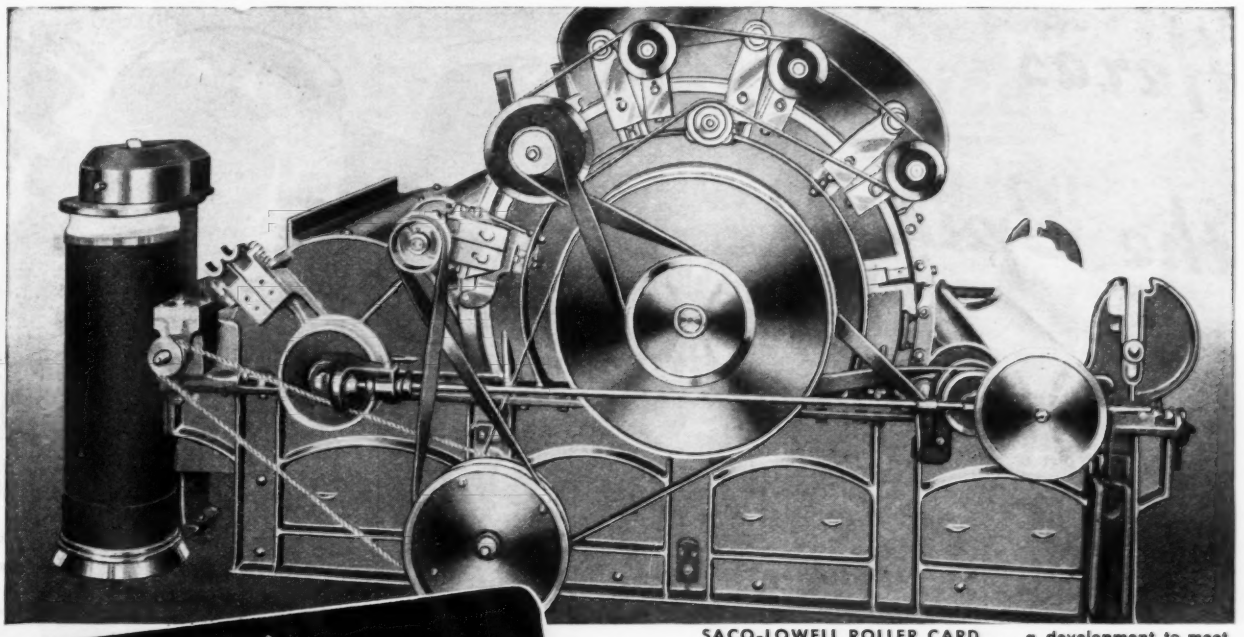
PREPAREDNESS

WE hear much of this word today—in its physical sense. But, of what use are machines and their product if their usefulness is sabotaged by dissension and strife? ✶ In thinking of the New Year let us lay aside petty differences and reaffirm our faith in those principles that have given Americans more of the better things of life.

HOWARD BROS. MFG. CO.

Harry C. Bdey.
President

Products: Card Clothing for Woolen, Worsted, Cotton, Asbestos, and Silk Cards—Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all plants—Lickerins and Garnett Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant—Midgley Patented Hand Stripping Cards, Howard's Special Hand Stripping Cards and Inserted-Eye and Regular Wire Heddles.



SACO-LOWELL ROLLER CARD . . . a development to meet the increasing use of staple fibres 2" or longer.

Solved.. THE PROBLEM OF PROCESSING STOCK CONTAINING LONGER SYNTHETIC FIBRES

THE DEMAND FOR YARNS made from staples containing fibres over 2" long created new problems for mills already adequately equipped for processing the shorter staples. But mills planning to handle these longer fibres, either in blend or in straight mixes, can avoid any uncertainty by investigating first the specialized equipment which Saco-Lowell has designed and constructed expressly for this purpose.

These units, modern, efficient and cost-reducing, have been designed for processing such materials as viscose, acetate and mixtures containing these with or without cotton.

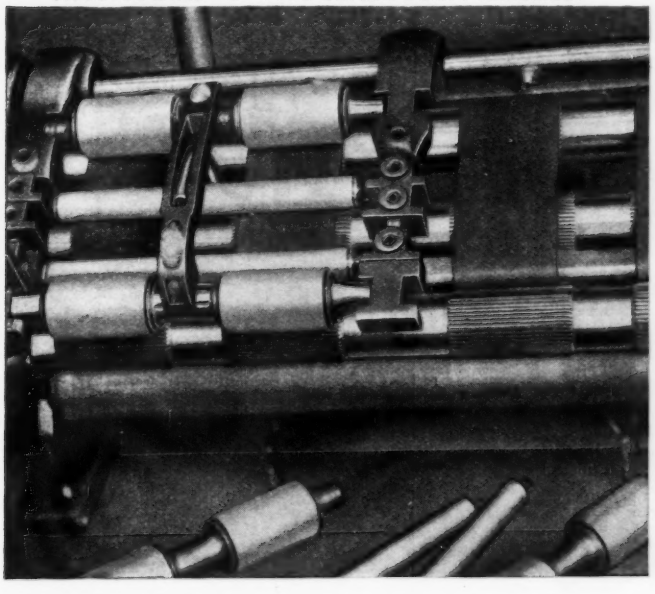
Our engineers would welcome the opportunity of consulting with you and giving you more complete facts. Please write for bulletin.

SACO-LOWELL SHOPS

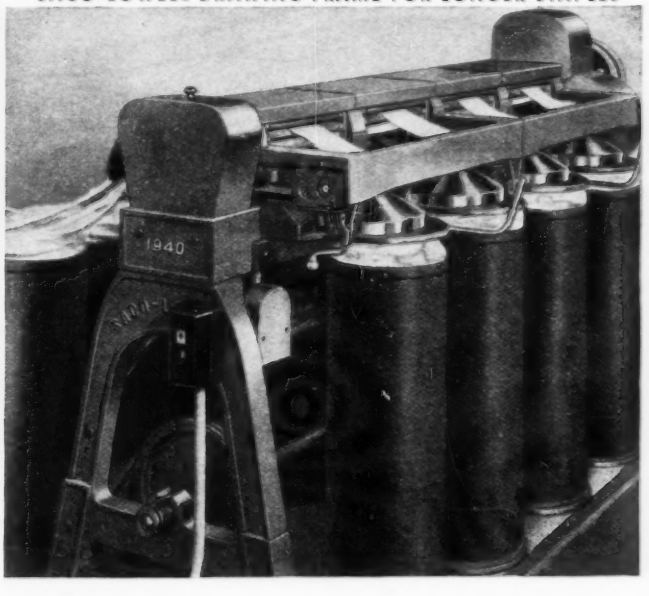
60 Batterymarch St., Boston, Massachusetts

Charlotte, N. C. Greenville, S. C. Atlanta, Georgia

SACO-LOWELL "Z" TYPE BETTER DRAFT ASSEMBLY



SACO-LOWELL DRAWING FRAME FOR LONGER STAPLES

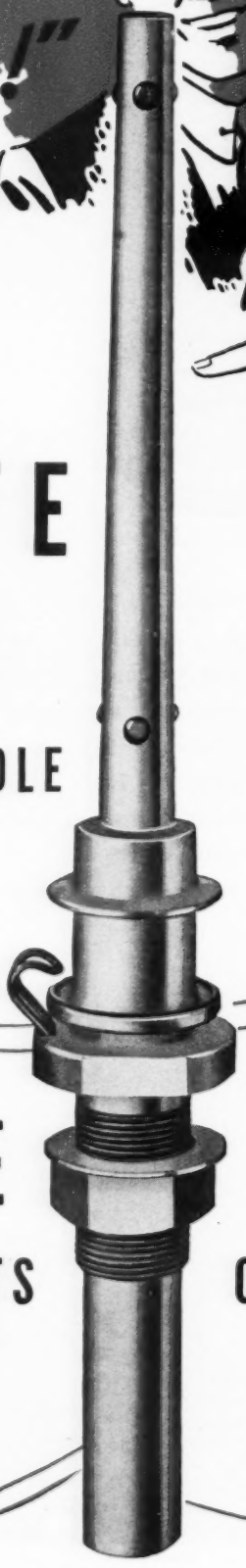


"Here's the Spindle we want, Jim!"

MARQUETTE NOVIBRA

ROLLER BEARING SPINDLE

Protected Under One or More of the Following U. S. Patents: 2168247, 2168248, 2168249.



MARQUETTE TEXTILE SPINDLES NOVIBRA TRADE MARK

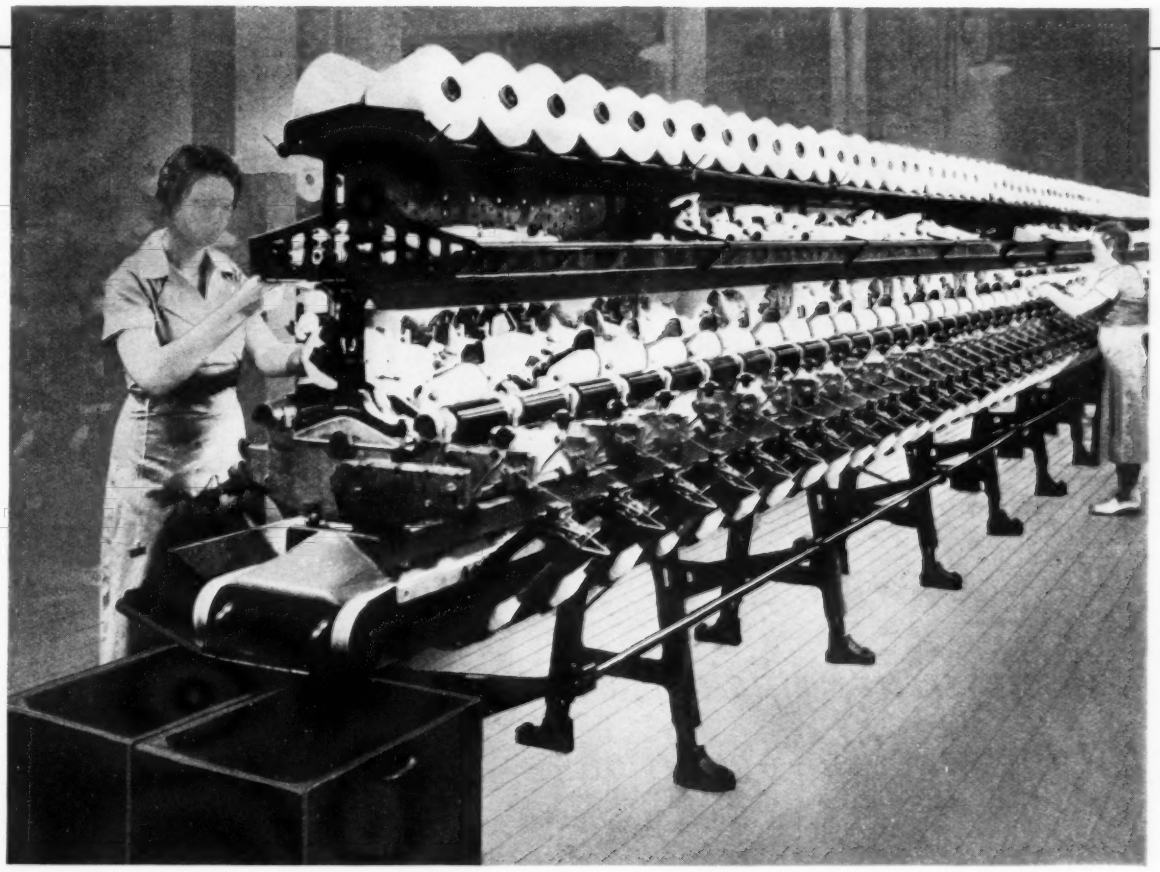
MARQUETTE METAL PRODUCTS COMPANY

1170 Galewood Drive
Cleveland, Ohio

BYRD MILLER
908 Woodside Bldg.
Greenville, S. C.

STANLEY MORTON
25 West Dorrance St.
Kingston, Pa.

The Streamlined Outside Reflects a Simplified Inside



Many mills consider the Roto-Coner* to be the *most modern piece of equipment* among all the machines they are operating.

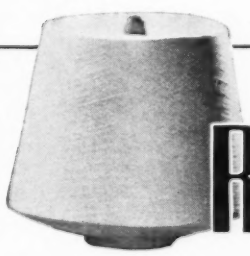
The Roto-Coner* *looks* modern, to begin with. And its streamlined design *means:* more convenience for the operator, fewer places for lint to accumulate, and ease of cleaning.

Internally, the Roto-Coner* is just as modern. The small number of parts means trouble-free operation and less maintenance and repair cost. Despite the higher winding speeds, there are no fast-moving parts to be greased and cleaned—and oiling is almost entirely automatic.

Mills using the Roto-Coner* to produce soft, open-wind packages for knitting, dyeing or twisting will find double satisfaction—first, in lower cost of manufacturing; second, in improved quality of winding package.

See our 15-page catalog in TEXTILE YEARBOOK

*Reg. U. S. Pat. Off.



ROTO-CONER

LEESONA

Reg. U. S. Pat. Off.

OPEN-WIND CONES FOR KNITTING

DYEING PACKAGES — PARALLEL TUBES FOR TWISTING

UNIVERSAL WINDING COMPANY P. O. BOX 1605 **PROVIDENCE, R. I.**

BOSTON PHILADELPHIA UTICA CHARLOTTE ATLANTA

Don't start another year without

GULF

PERIODIC CONSULTATION SERVICE

to help secure efficient, full-time machine operation

You can step up production and reduce maintenance costs by putting this valuable service to work in your plant.

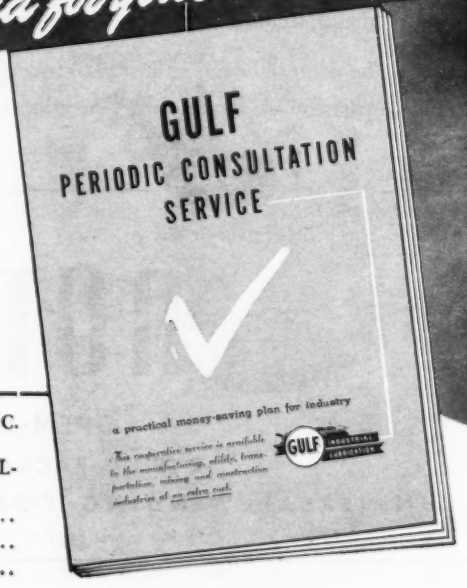
IMMEDIATE action and a strong offensive against mounting costs of plant operation — that's what you get when you put GULF PERIODIC CONSULTATION SERVICE to work!

To offset mounting non-controllable costs, executives are adopting this modern lubrication service because it gives them a specific means of attaining greater efficiency of production and reducing costs for maintenance of their machinery.

Don't start another year without GULF PERIODIC CONSULTATION SERVICE for your mechanical equipment. Send for the free booklet which explains this advanced lubrication service.

GULF INDUSTRIAL LUBRICATION

Send for your booklet



GULF OIL CORPORATION—GULF REFINING COMPANY C.
3800 GULF BUILDING, PITTSBURGH, PA.

Please send my copy—no charge—of the booklet "GULF PERIODIC CONSULTATION SERVICE."

Name .....

Company .....

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New Cation Active Softening Agent

LUPOMIN Q

Can be applied in alkaline, acid or neutral baths!

—gives soft, supple, full hand to cotton, linen, silk, wool, acetate, spun rayon and mixed fabrics.

● Now you can get all the time- and money-saving advantages of regular LUPOMIN—supple hand . . . odorless, uniform, laundry-proof finish . . . bright print colors—without special treatment of the bath!

LUPOMIN Q is a cation active softening agent available in quick-dissolving paste form. It is equally effective in an acid, neutral or alkaline bath, and mixes with gelatins, gums, starches or dextrines. LUPOMIN Q can be used with alkaline-earth salts *without the usual acidifying with acetic acid.* The elimination of this special treatment effects savings in time and money.

Send for a sample of LUPOMIN Q today. See how it will do many jobs that help you produce a perfect finish—at lower cost.

USE LUPOMIN Q TO INSURE:

- Smooth, supple hand
- Strong, lubricated yarn
- Drapy fabrics
- Odorless finish
- Bright shades and print colors
- Fast colored discharges
- No bronzing of sulphur colors
- No bleeding or crocking
- No mark-off on wet-pressing

WOLF BRAND PRODUCTS

JACQUES WOLF & CO.

Chemicals PASSAIC, N. J.

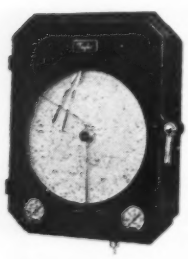
WAREHOUSES: Providence, R. I., Philadelphia, Pa., Utica, N. Y., Chicago, Ill., Greenville, S. C., Chattanooga, Tenn., Knoxville, Tenn., Charlotte, N. C., Milwaukee, Wisc., Columbus, Ga. Midwestern Distributor: Bradley F. Marthens, Chicago, Ill.

You Can Get **Not 1 but 5 Forms of Control** in the **NEW TAYLOR FULSCOPE CONTROLLER**

THE NEW Taylor Fulscope Controller is unique. It can *grow* in your plant. It can grow as your processing needs grow. At first your processing needs may be simple, so you install the simplest form of the new Fulscope. As time goes on, perhaps your production expands, and your processing operations become more demanding. You need a different controller. What to do? Buy another instrument? You don't need to! Another unit assembly may be added to or substituted in your basic Fulscope Controller. That converts it into the controller your progressing needs require. You see, merely by adding or substituting such unit assemblies in the drilled and tapped Fulscope cases, it's possible to expand the Fulscope Controller to give all types of process control—from simple *fixed high sensitivity*, through *adjustable sensitivity*, *adjustable sensitivity with automatic reset*, to *adjustable sensitivity with Pre-Act*, (Taylor's amazing new control effect based on rate of control-point deviation) and *adjustable sensitivity with automatic reset and Pre-Act*, the ultimate in process control. You may never need such advanced control, but Taylor has it if you want it. The new Taylor Fulscope Controller is industry's 5-in-1 controller for *all* kinds of process control.

There's a national need today for this astonishingly versatile, adaptable Fulscope Controller. Industry's biggest job is helping America prepare fast. You must be prepared to produce top quality at top speed. With this new Taylor Fulscope Controller in your plant, you *are* prepared. No other process controller is so completely new—none has been so completely redesigned (not just tinkered with)—no other is so easily adaptable to growing, changing processing needs. Your own preparedness program can well begin with the new Taylor Fulscope Controller.

Ask the Taylor man what the 5-in-1 features of the new Fulscope mean specifically to *you*. Find out about the recording and indicating types—for temperature, pressure, flow, and liquid level. Learn about the new Taylor Recorder, twin of the Taylor Fulscope Controller. *Now*—from Taylor Instrument Companies, Rochester, N. Y. Plant also in Toronto, Canada.



Not 1, but all these 5 Forms of Control Available in the NEW TAYLOR FULSCOPE CONTROLLER

Fixed High Sensitivity—Adjustable Sensitivity—Adjustable Sensitivity with Automatic Reset (in same case)—Adjustable Sensitivity with Taylor's unique Pre-Act effect Adjustable Sensitivity with Automatic Reset and Pre-Act

All Fulscope Controller cases are drilled and tapped to permit adding or substituting different forms of control—easily, right in the field!

BE PREPARED with TAYLOR INSTRUMENTS

Taylor

Indicating Recording Controlling

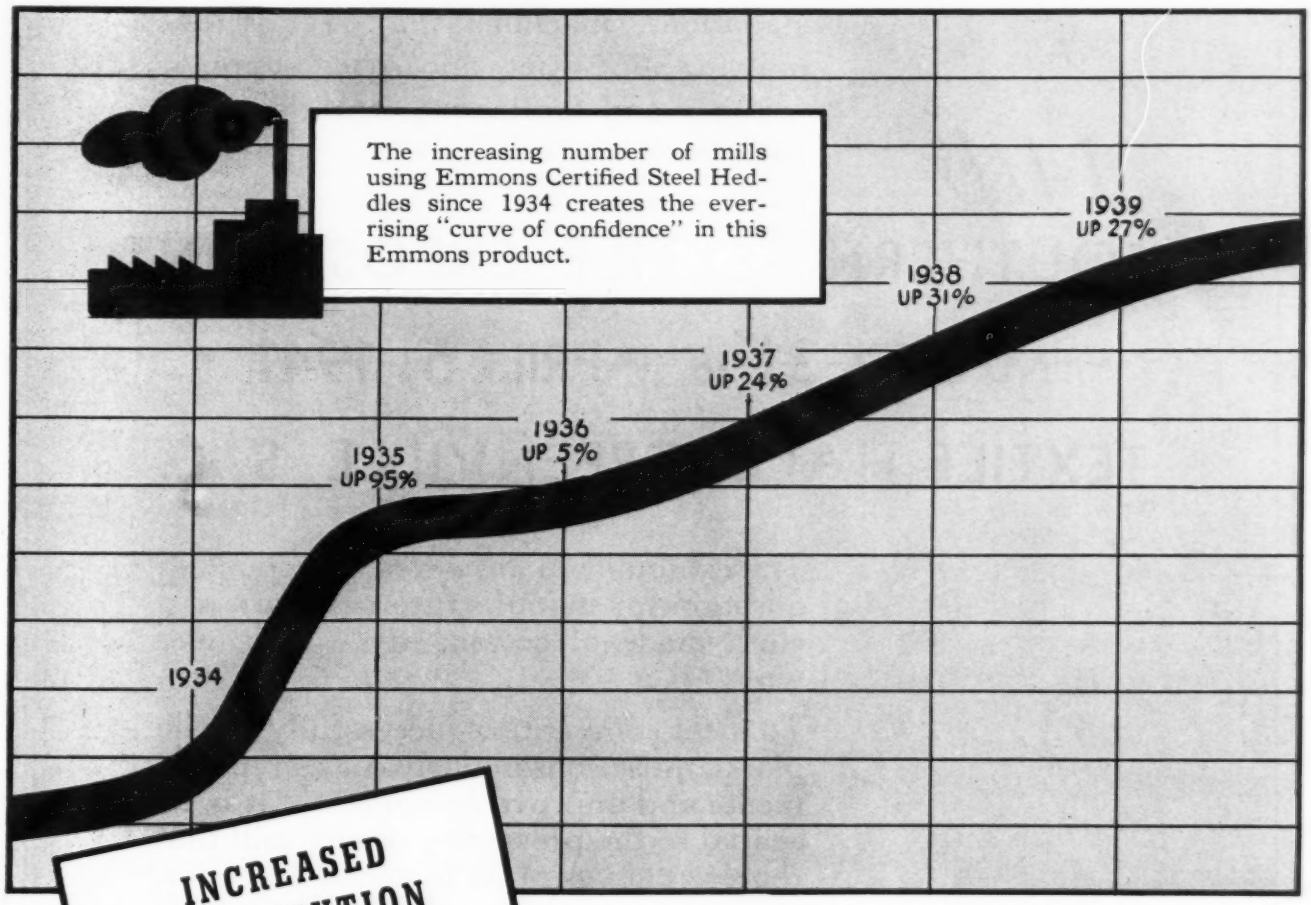
TEMPERATURE, PRESSURE, FLOW and LEVEL INSTRUMENTS

FOLLOW THE EMMONS

CURVE OF CONFIDENCE

Note the ever increasing number of mills buying Emmons Certified Steel Heddles! Consider the reason: consistently good performance, based upon rigid *quality control* in manufacture.

From choice of metal to the extra operations which streamline the heddle eye, Emmons inspectors watch every step, giving a final examination before attaching the "Inspected and Approved" seal. Then a famous outside Testing Laboratory buys samples in the open market and tests them for durability, corrosion-resistance, and smoothness of eye. Here's a basis for buying that you, too, can rely on!


The increasing number of mills using Emmons Certified Steel Heddles since 1934 creates the ever-rising "curve of confidence" in this Emmons product.
1934
1935 UP 95%
1936 UP 5%
1937 UP 24%
1938 UP 31%
1939 UP 27%

INCREASED DISTRIBUTION

Service by Practical Millmen in Your State

Clifton Watson: Mgr. Southern Sales, Box 2036, Charlotte, N. C., Tel. Charlotte 3-7503.

Henry Littlejohn: Box 587, Greenville, S. C., Tel. 5440.

Arthur Harris: Box 1982, Atlanta, Ga., Tel. Main 2643.

Alvin Braley: Box 236, Itasca, Texas, Tel. 170.

W. S. Taylor: 171 Madison Ave., New York City, Tel. Lex. 2-6060.

Emmons products, including standard sizes of flat heddles, are stocked in Charlotte and Atlanta. Emmons Reeds are manufactured in Charlotte.

This Inspected and Approved Seal builds confidence for *all* Emmons products, including
"Multiple Air Space" Reeds
"Chafeless Cord" Cotton Harness
Heddle Frames.

Get the most from your loom harness equipment! This free booklet is filled with money-saving hints for your mill. Write for it today!

EMMONS

LOOM HARNESS COMPANY

LAWRENCE, MASS. . . . . CHARLOTTE, N. C.

SEE LATEST TEXTILE WORLD YEARBOOK FOR DETAILS ON ALL EMMONS PRODUCTS

THE LEADING MANUFACTURERS OF TEXTILE EQUIPMENT . . . . .

will display standard and improved installations, machinery, accessories, building, operating and office supplies, primary and fabricating materials, and parts at the

14th

SOUTHERN TEXTILE EXPOSITION

• MARCH 31 to APRIL 5, 1941 •

TEXTILE HALL, GREENVILLE, S. C.

The exhibits will answer any production question for manufacturers of yarn and cloth made of cotton, rayon, silk, and wool.

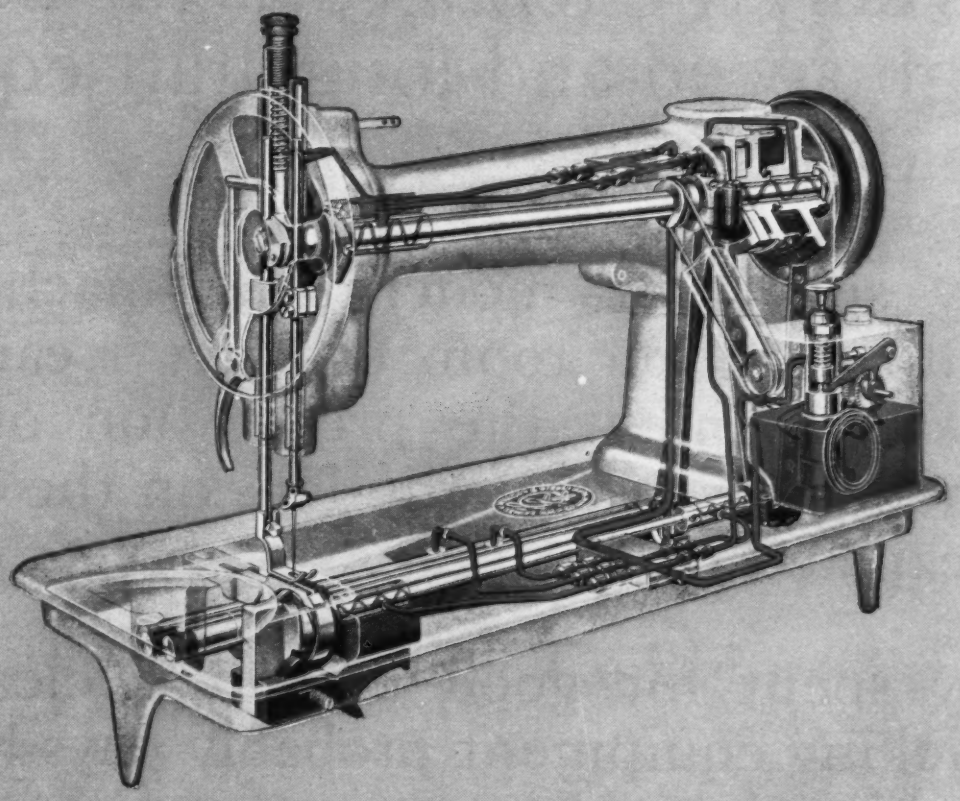
To meet competition successfully textile plants must continuously make replacements and improve equipment. It is essential to the prosperity of any mill that representatives of its financial and operating personnel attend the Exposition.

Executives and Department Heads who do not receive tickets may obtain them upon request.

NOTE: This Exposition is exclusively for the textile industry. Due to the large attendance and crowded aisles, it is regretted that children under sixteen years of age cannot be admitted.

Our rooms Committee will see to it that all who attend the Exposition will be able to obtain comfortable quarters. Address letters to Textile Hall, Greenville, S. C.

THE "W & G" LOCKSTITCH *with* AUTOMATIC LUBRICATION



Incorporates the Automatic Meter-Unit Type Lubricating System which apportions and delivers just the correct amount of *filtered* oil to each individual bearing according to its size, speed and load.

Designed to INCREASE PRODUCTION—SIMPLIFY OPERATION—REDUCE UPKEEP COSTS—PROLONG MACHINE LIFE.

Automatic Lubrication is *Correct* Lubrication

Send for Illustrated Descriptive Booklet No. 886

WILLCOX & GIBBS SEWING MACHINE CO.

NEW YORK, N. Y.

No cotton mill is really modern unless its opening, blending, cleaning and picking departments are as fully modernized as the needs of high speed and long draft equipment demand.

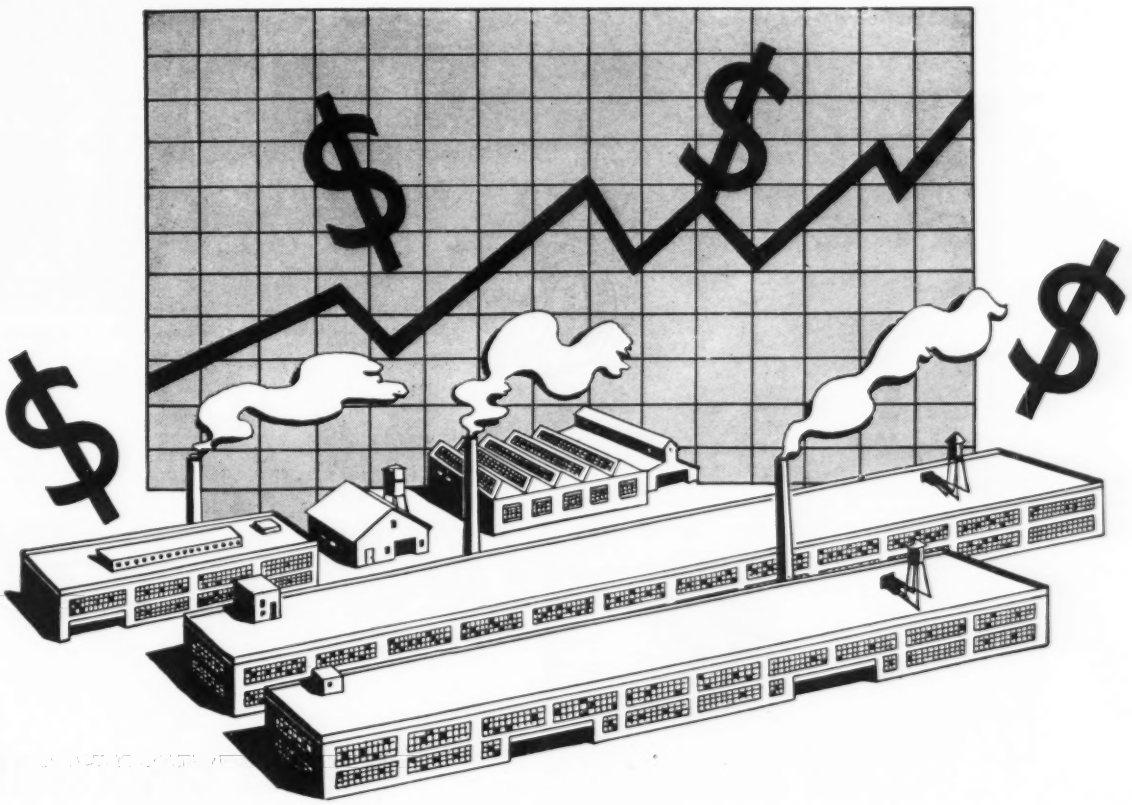
Money spent for modernizing machinery beyond the picker room can never earn its full return unless the preparation of the cotton is right so that the laps on the cards are clean and uniform.

Money spent for good blending, cleaning and picking equipment probably pays better returns for the amount expended than any other invested in a modernization program.

We have specialized in opening and picking room equipment for years and can certainly help to make your picking and opening departments better if they are not now as good as you could wish them to be.

AldricH MachinE WorkS

Greenwood, South Carolina



Let *DECERESOL Help You Increase Your Plant Production Capacity—Profitably

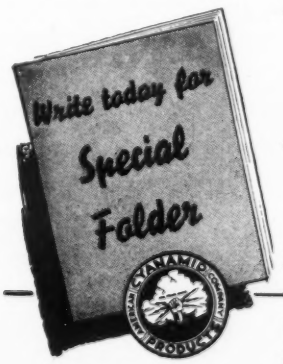
Hundreds of mills are saving time, effort and money in many processes in which wetting, emulsifying and dispersing are a part—through the use of DECERESOL—the most powerful wetting agent available.

Following are some of the steps in which it meets the increasing demand for speed and efficiency in textile production:

Wetting out grey cotton piece goods
In mixing liquid soaps with strong detergency
Wetting out goods prior to sanforizing
Adding to dyebath to increase penetration
Preparing raw cotton stock for dyeing
As a dispersing agent in dissolving dyestuffs
De-oiling or de-gumming raw cotton stock
In treatment of water prior to addition of dry starch
In "brown souring" for better penetration
In the oxidation of vat prints
The desizing of rayon or acetate piece goods

These are but a few of the *more than thirty* ways in which DECERESOL can help you speed up and modernize your processes profitably. Write for full information on DECERESOL.

*Trade-mark of American Cyanamid & Chemical Corporation applied to wetting agents of its own manufacture.



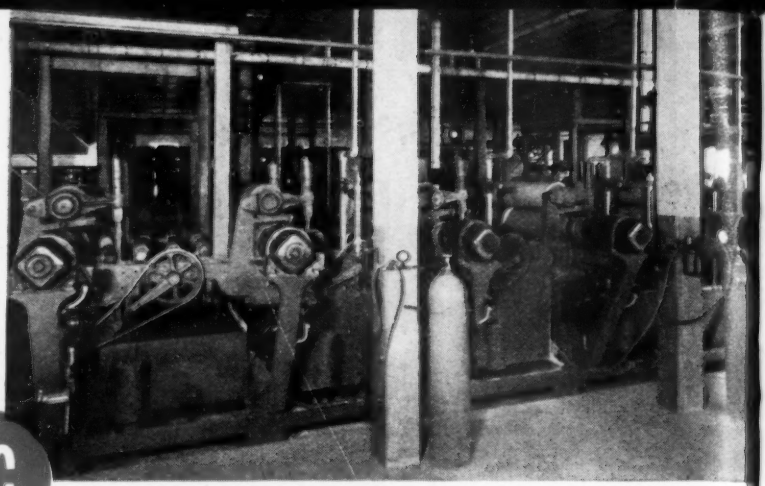
American Cyanamid
& CHEMICAL CORPORATION

A UNIT OF AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA • NEW YORK, N. Y.

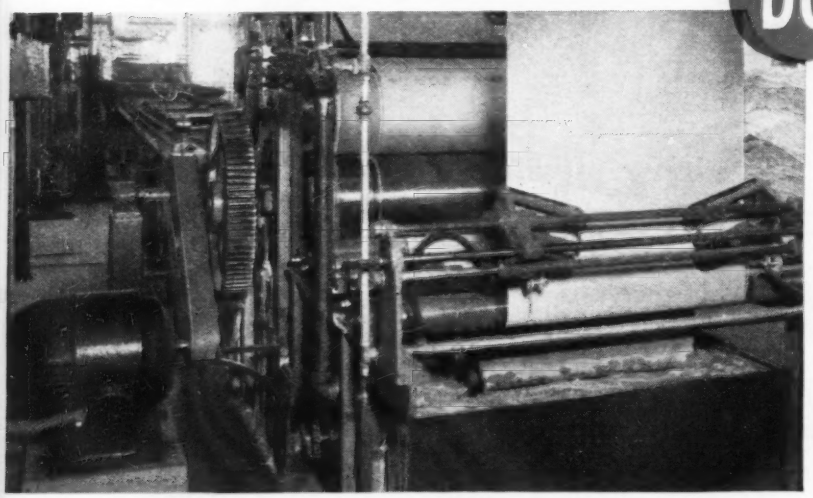
DISTRICT OFFICES: 822 West Morehead Street, Charlotte, N. C.; 89 Broad Street, Boston, Mass.; 600 South Delaware Avenue, Cor. South Street, Philadelphia, Pa.; 20 N. Wacker Drive, Chicago, Ill.; Azusa, Cal.

1. ADJUSTABLE VOLTAGE This type of range drive provides a wide speed range, and is giving excellent performance. Commonly it provides speed ranges of 8 to 1, and in special arrangement, up to 20 to 1. Speed changes with this drive are effected through varying the d-c voltage applied to the armatures. Speed of the range is controlled from one rheostat. Supplementary rheostats are used to synchronize the motors at the follower units. Equipment for this drive includes motors for driving the units, a motor-generator set, a source of constant-voltage direct current for excitation, and the various necessary and related control devices.

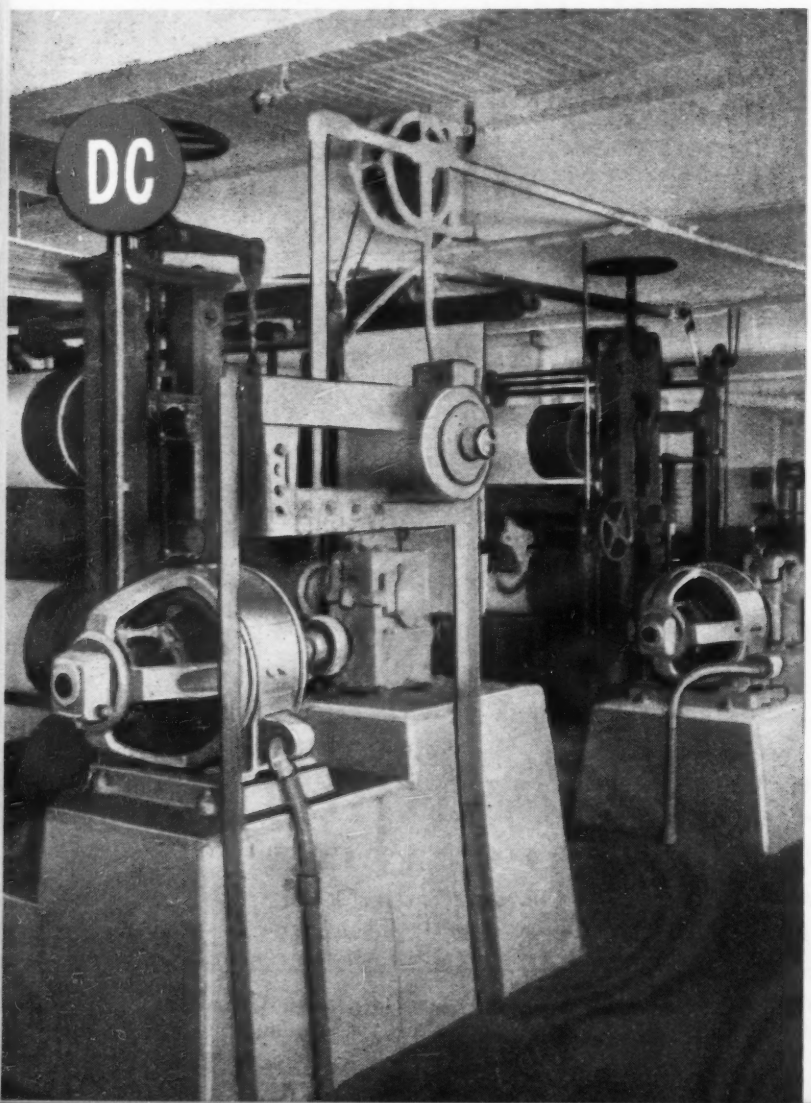


Five-unit adjustable-voltage range drive, Erwin Cotton Mills, Cooleemee, N. C.

DC



Entering-end of a six-unit adjustable-voltage range drive, Erwin Cotton Mills, Cooleemee, N. C.



◀ Two units of a six-unit range drive, constant-voltage type

Which

ONLY GENERAL ELECTRIC SUPPLIES ALL FOUR

ALL four kinds of range drive whether a-c or d-c provide *all* these advantages:

—Speed adjustable to the variety of goods.

—All motors in the range synchronized to operate over desired speed range.

—Control by means of conveniently located push-button stations.

—Individual units may be cut out of range, if desired.

—Low threading speed.

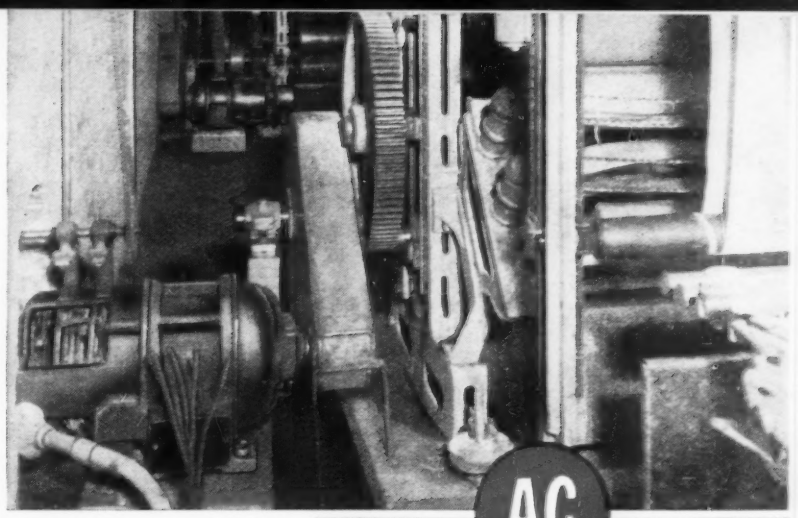
For further information on any of these drives, inquire of the nearest General Electric Office, stating the operating requirements in your mill, or write General Electric, Schenectady, New York.

3. CONSTANT VOLTAGE Where primary direct current is available, adjustable speed (shunt-field control) d-c motors are recommended. This drive is economical at speed ranges up to approximately 5 to 1.

In addition to the motors, control equipment is necessary to synchronize the several units in range. As with the adjustable voltage system, the speed of all the motors can be controlled from one rheostat. Supplementary rheostats are used to synchronize the motors at the follower units. Armature resistance is used to obtain threading, or low, speed.

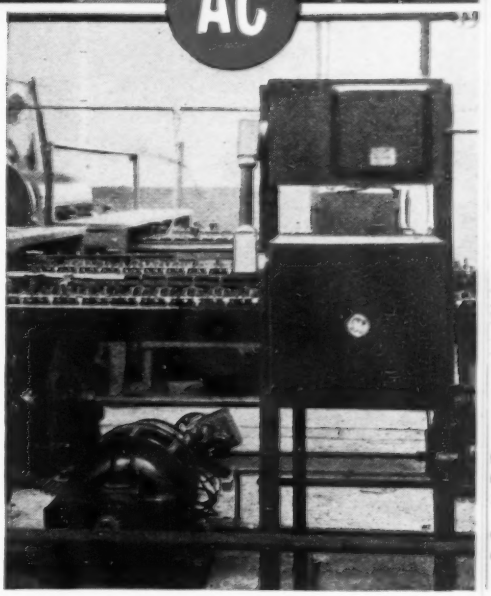
2. BTA BRUSH-SHIFTING Where alternating current is the primary source, and where a speed range of not more than 4 to 1 is satisfactory, the adjustable-speed motor (Type BTA) drive is successful. This is a unique type of brush-shifting motor sold in this country by General Electric only. Control is simple, and the absence of conversion apparatus (such as motor-generators) makes it easy to regroup existing units for a different set-up.

Wound-rotor motors are not recommended for range drives because of their limited speed range and series characteristics.

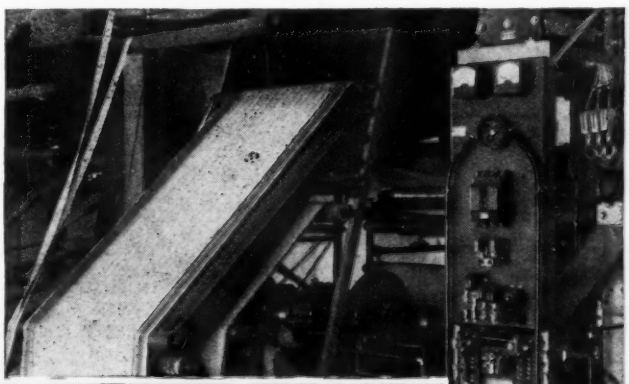


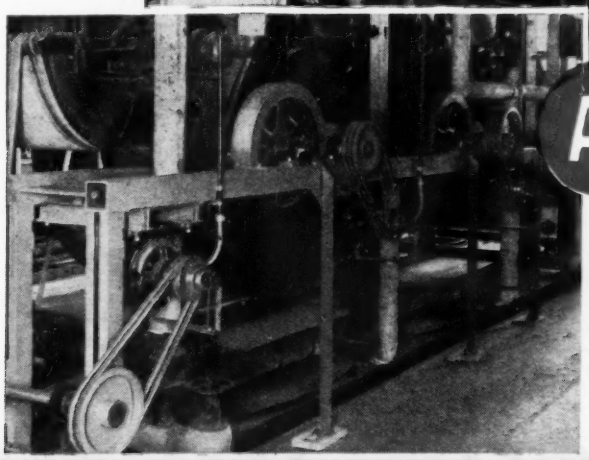
▲ Two units of a mercerizing range drive operated by Type BTA motors

Range Drive *for Your Mill?*



Brush-shifting motor drive for leading unit in a range





▲ Turbine-electric drive of printing range

◀ Batcher and dry-can motor drives in range with unit pictured above

4. TURBINE-ELECTRIC Though relatively new to the textile industry, this form of range drive has proved successful in more than a year of operation in two different installations.

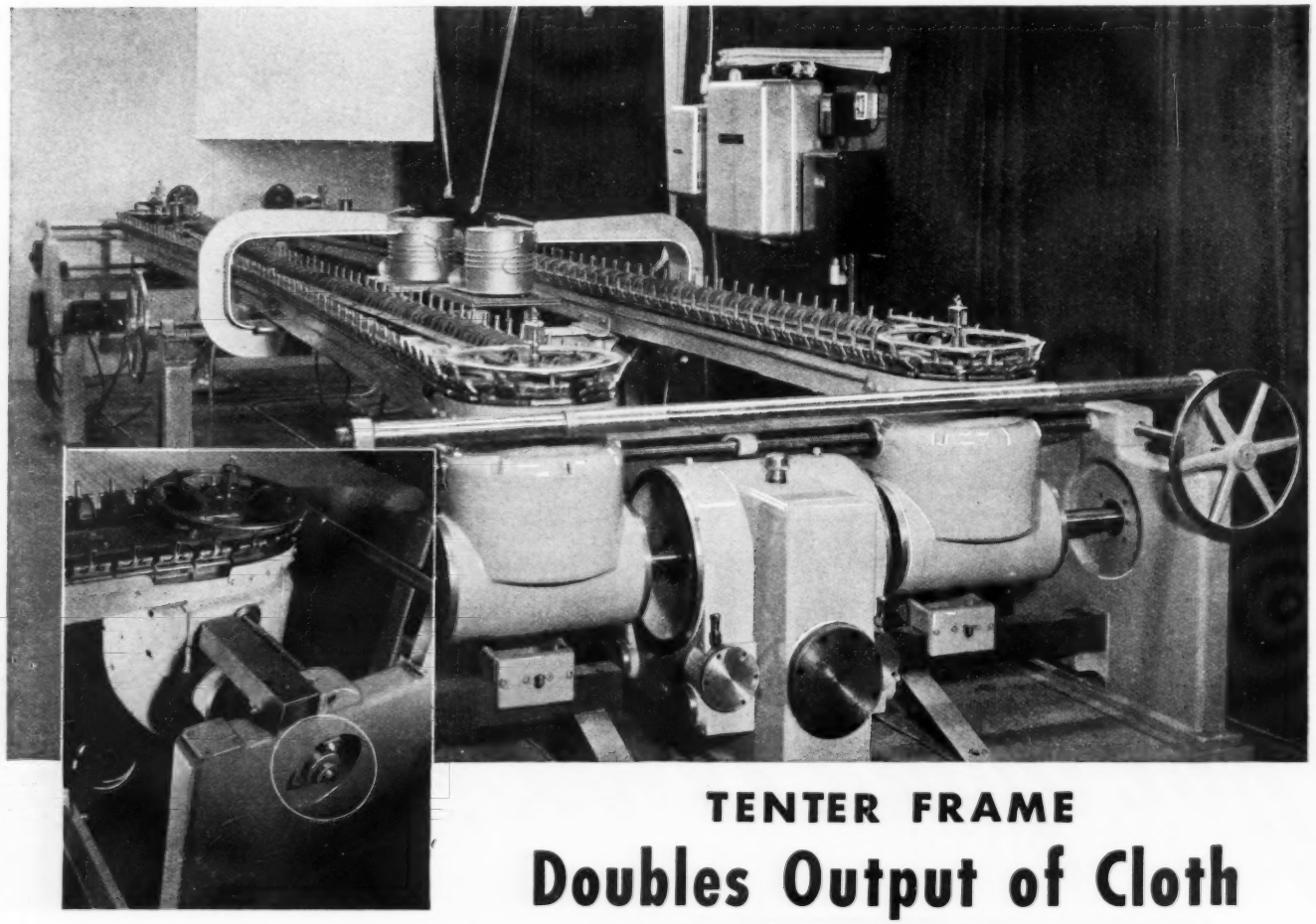
It is desirable where there already is a source of 90-lb or more process steam. Application of this system ordinarily does not exceed the existing steam requirements of the process.

Equipment comprises a geared turbine coupled to a low-speed a-c generator. By shaft extension, the generator drives the leading unit of the range as it generates electricity for the a-c motors driving the follower units of the range.

Varying the speed of the turbine varies the speed of the generator and the lead unit; and since the generator "feeds" the follower motor units, they keep step in direct proportion.

Starting, stopping, jogging are controlled easily by convenient push-button arrangement. Basic speed adjustment of the range is made by hand, or by remote control, of the turbine throttle.

GENERAL ELECTRIC



TENTER FRAME

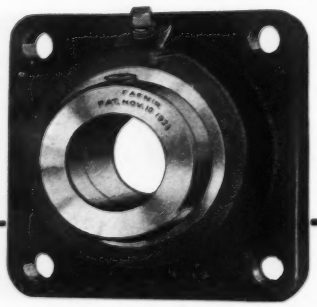
Doubles Output of Cloth

Increased Production Possible With "Fafnirized" Textile Machine

Neat design, a solid, welded steel bed plate, an automatic weft straightening control with "electric eyes" – and Fafnir Ball Bearing units are among the features that enable this machine, made by Winsor & Jerauld, Providence, R. I., to achieve its high production record.

Since exact tension of the cloth and evenness of motion are vital in guarding the uniform quality of the goods, this manufacturer chose anti-friction bearings for all important points of motion within the machine. Fafnir Flange Cartridge Units proved ideal because of their easy 1-2-3 installation and deep-groove, long-life bearing.

Another example of clean, oil-free operation, easy assembly and long-life performance brought to the textile industry by Fafnir Ball Bearing Units. Write for the Textile catalog. The Fafnir Bearing Company, New Britain, Connecticut. Branch Offices: Atlanta . . . Birmingham . . . Boston . . . Charlotte . . . Dallas.



USED "BY THE DOZEN" ON MODERN TEXTILE MACHINES

The Fafnir Flange Cartridge offers unbeatable advantages: (1) Flange is easily bolted to frame (2) Bearing is secured to shaft with finger-twist of Self-Locking Collar – no machining, adapters, shoulders required (3) Self-aligning, yet with deep races and large balls for longer life (4) Grease lubrication for cleanliness.

FAFNIR *Ball Bearings*

THE BALANCED LINE • MOST COMPLETE IN AMERICA

QUICK SAVE-LITE FACTS

1. It's a whiter mill white . . . stays white longer.

2. It reflects more light . . . diffuses it scientifically.

3. It costs less to apply . . . goes on easier, spreads further, covers better.

4. It costs less to use . . . stands up longer under strenuous plant conditions.

5. Save-Lite purchase includes Save-Lite service by technically trained Save-Lite representatives with years of experience in the highly specialized painting needs of plants, textile mills, factories, machine shops.

6. Free Save-Lite recommendations include complete survey of your plant and mill village requirements, including special tests and surveys for your particular painting problems.

Paint away gloom with SAVE-LITE!

Frankly, we're exaggerating. Few plants are so gloomy that a girl wouldn't notice her own cousin. But many workers *do* strain their eyes, make mistakes and tire quickly—all for want of a high light-reflecting paint on walls and ceiling!

For example, one Massachusetts plant raised their floor-level light by 125% with one coat of super-white Save-Lite. An Ohio factory increased lighting levels from 6 to 17 foot-candles with Save-Lite. Standard tests show that an unpainted brick wall gives a reading of one foot-candle, a gray wall 4 foot-candles, and a Save-Lite-painted wall 22½ foot-candles. For Save-Lite actually reflects more light than many silvered mirrors!

Think what this new brightness would mean in your plant—in more and better work, fewer errors, less eye-fatigue, better housekeeping and all-around cheerfulness. And this new brightness is yours with no change in lighting fixtures or load . . . is yours at a cost little higher than a cheap, slap-dash paint job!

Get the facts on Save-Lite—made only by Sherwin-Williams. When you see how it transforms your plant, you'll say, "Why didn't we do this years ago!" Send coupon to Sherwin-Williams Co., Cleveland, O., and all principal cities.

SHERWIN-WILLIAMS

SAVE-LITE

THE LIGHT CONDITIONING PAINT

THE SHERWIN-WILLIAMS COMPANY
101 C. Prospect Ave., N. W., Cleveland, Ohio

Please send me complete details on factory painting with Save-Lite. No cost or obligation.

Name.....

Company.....

Address.....

A STRANGE COUNTRY —

BEWILDERED! No wonder: Signs, labels, brands are essential guide posts to American life. Wise merchandisers of hosiery, underwear, gloves, hats, cottons, silks, woolens are more and more removing confusion from consumer buying with informative marking. Kaumagraph products and methods give the all-inclusive means for Unmistakable Identification. Kaumagraph* Dry Transfers — attractive, economical; Prestomarks — fabric labels which need no sewing on; Embossed Seals — for the extra quality touch; Lithographed Labels, Box-wraps, Package Inserts—all sensibly designed for common-sense modern appeal. Send for a Kaumagraph Identification Man and learn the advantages of coordinating your product with identification the Kaumagraph way.

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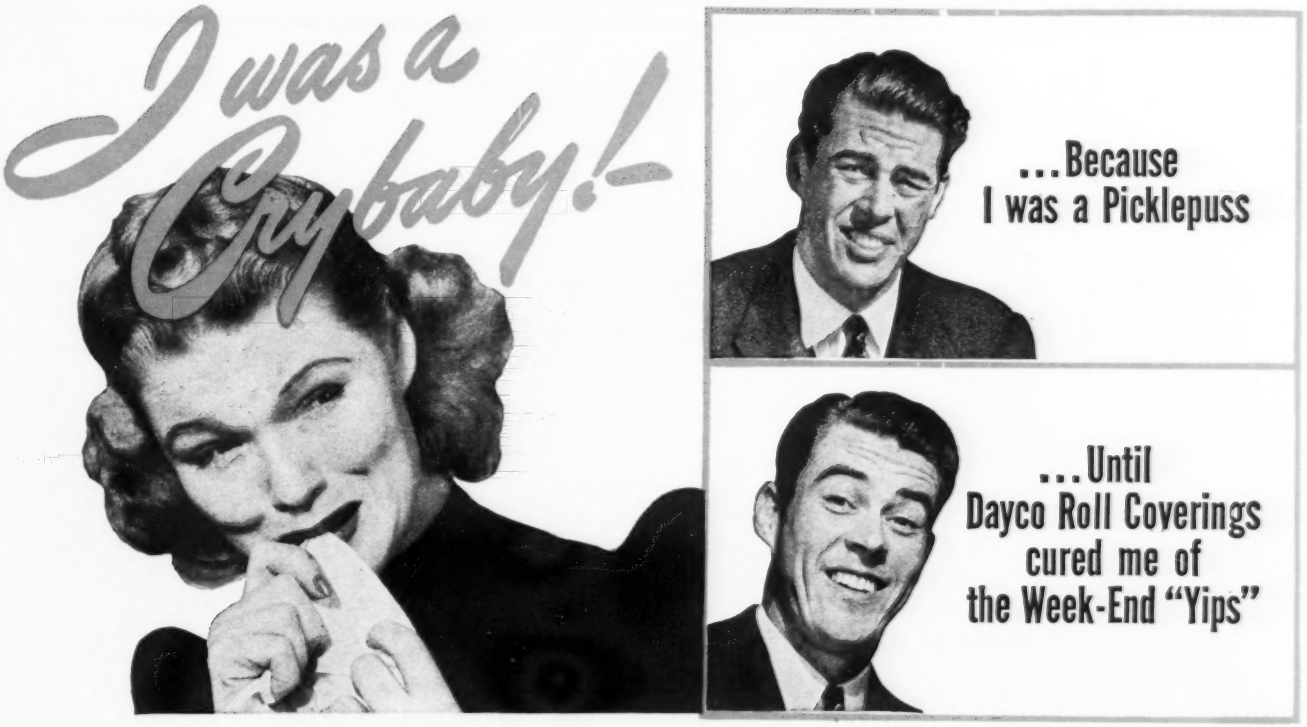


Dayco TEMPERED ROLL COVERINGS
Cure the Winter Week-End "Yips"

Textile mill men everywhere are discovering that even the worst cases of the winter week-end "yips" disappear completely when Dayco Tempered Roll Coverings take over. The executives of large and small mills have learned that after week-end shut-downs Daycos eliminate ends down jitters—reduce "down" time and pay off with instantaneous start-up and top-quality production.

All-season Daycos take temperature changes or extremes in stride without flattening, distortion or grooving. And remember, Dayco Tempered Roll Coverings have been tested and proved under the rigorous service conditions of the nation's leading textile mills *to serve longer, give greater finished yarn production*, assure high standard uniform yarn, and cost-less-per-month-of-use.

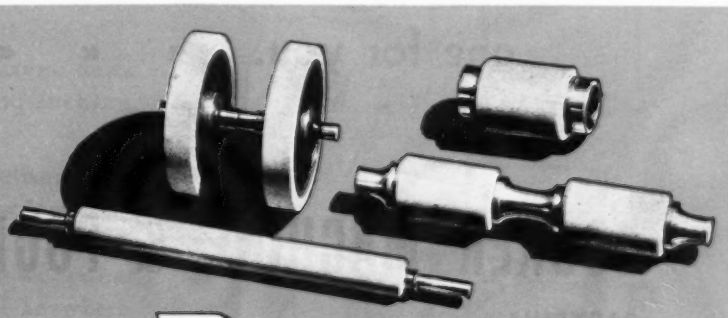
Get going—and keep going *every day of every month* with Dayco Tempered Roll Coverings—the one standard of year-round efficiency by which all others must be judged.

THE DAYTON RUBBER MFG. CO.
TEXTILE PRODUCTS DIVISION. Dayton, Ohio
The Originators and Pioneers of Dayco Tempered Roll Coverings

GREENVILLE SALES OFFICE
Woodside Building . . . Greenville, S. C.

HERE'S WHY DAYCO TEMPERED ROLL COVERINGS ARE THE No. 1 CHOICE OF AMERICA'S TOP-FLIGHT TEXTILE MILLS

1. Improved drafting.
2. No grooving—less ends down.
3. Not affected by temperature changes.
4. Lower net roll costs.
5. Long service life.
6. Easy to apply.
7. Proper cushioning.
8. Unaffected by hard ends.
9. Static free.
10. Oil resisting.
11. One piece tubular construction.
12. Produce more uniform yarn.



Dayton
Thorobred TEXTILE PRODUCTS
Dayco TEMPERED ROLL COVERINGS—LOOM SUPPLIES
MADE BY THE WORLD'S LARGEST MANUFACTURER OF V-BELTS

HAPPY NEW YEAR!

We want to thank our many friends and customers for the nice business given us during 1940, making this the largest year in the history of our business. « « «

We hope the New Year will be a Happy and Prosperous one for you. « « « « « «

COCKER MACHINE & FOUNDRY COMPANY

GASTONIA, NORTH CAROLINA

Builders of complete warping machinery, and sizing machinery for cotton, filament rayon and spun rayon.

The Direct Way

AN ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE FOR A-C CIRCUITS

Speed Ranges up to 16 to 1 — Sizes 1 to 30 hp.

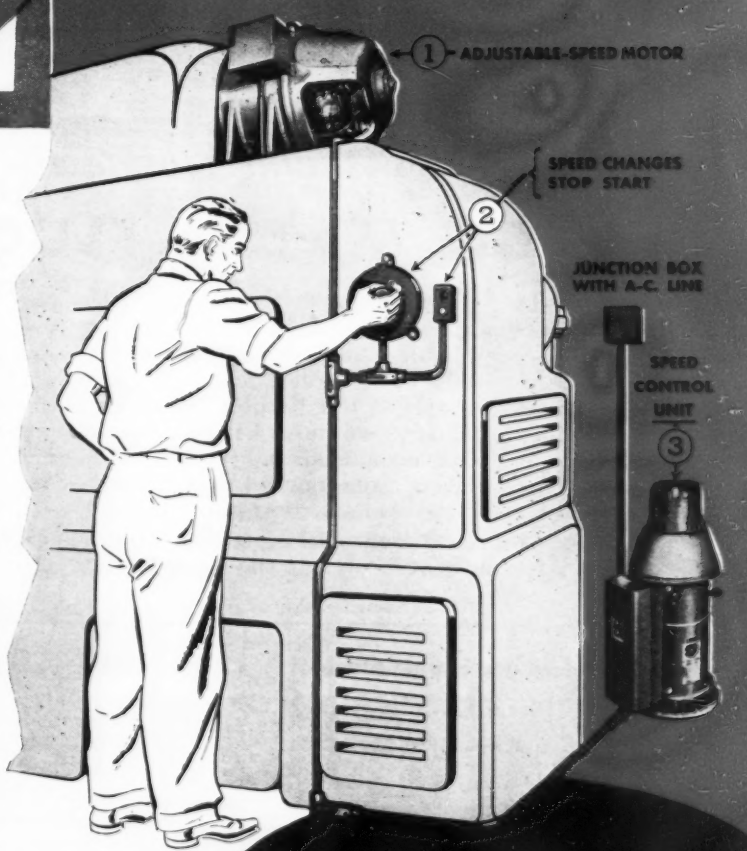
RELIANCE V★S DRIVE

THE V★S way shortens the distance from power to work. It's the direct way, eliminating intermediate speed-changing devices, clutches, gear trains, a multiplicity of handles and knobs. It makes full use of the electric motor as a simple speed-changing device as well as a power unit (1).

From one handle in a convenient spot speeds are changed smoothly over ranges up to 16 to 1 while the machine is running. To stop, press a button; to start again, press another and the machine comes back to its previous speed (2).

And here are more features that help step up production: quick stopping, reversing, safe speeds for threading and inching, ample starting torque with smooth acceleration.

Using a proven principle of speed control, the Reliance V★S Drive now gives you these many advantages at a new low price. This is possible because of the packaged speed control unit (3) which is connected by three wires to a 3-phase a-c. power circuit. It takes little space and can be mounted anywhere.



RELIANCE ELECTRIC & ENGINEERING COMPANY

1088 Ivanhoe Road • • • Cleveland, Ohio

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HOUSTON (TEX.) • LOS ANGELES • NEW YORK • PHILADELPHIA • PITTSBURGH • PORTLAND (ORE.)
ST. LOUIS • SAN FRANCISCO • SYRACUSE (N. Y.) • AND OTHER PRINCIPAL CITIES.

CONVENIENCE, WITHOUT LIMITATIONS

The start-stop button and speed changer can be placed anywhere that you can run a wire. Grouped with other control elements for the machine they make centralized control complete.

Get Bulletin 309 for details.

RELIANCE A-C D-C MOTORS

New savings for textile mills on amazing new

G-E MAZDA FLUORESCENT LAMPS

EVERY day the story of G-E MAZDA Fluorescent lamps grows more amazing. So swift has been the acceptance of this new, cooler, high-efficiency light source—so wide-spread has become its use throughout the textile industry—so steady has been the development of new G-E manufacturing economies — that again General Electric announces lower prices. Again General Electric passes its savings along to you!

Now fluorescent light costs less than ever before. You can use more of it—to help speed production, step up sales, cut errors. You can have "windows of daylight" everywhere—better work with less eyestrain—daytime morale on the night shift! You can have the new higher levels of light needed to keep your business forging ahead—and have it at less cost than ever now.

Ask your electric service company or G-E MAZDA lamp distributor to help you choose the fixture best suited to your needs. And be sure you get G-E MAZDA "F" lamps. They're made to give maximum light for current consumed. *Made to stay brighter longer!*

Before you buy any type of FLUORESCENT LIGHTING ask yourself these questions:

1 Are you getting a wide enough choice of fixtures so that your fluorescent lighting meets your INDIVIDUAL needs?

2 Is the performance of the fixtures and ballasts and starters certified for best lighting results by Electrical Testing Laboratories?

3 Are you getting G-E MAZDA Fluorescent Lamps, which give all the efficiencies and economies of MAZDA Research?

NEW LOW PRICES ON G-E MAZDA "F" LAMPS

	Jan. 1st, 1941	
15-watt T-8 (*daylight or white*†)	was 95c	**NOW 85c**
20-watt T-12 (*daylight or white*†)	was $1.25	**NOW $1.10**
30-watt T-8 (*daylight or white*†)	was $1.25	**NOW $1.10**
40-watt T-12 (*daylight or white*†)	was $1.90	**NOW $1.60**
100-watt T-17 (*daylight or white*†) (recently introduced)	was $3.75	**NOW $3.50**

Prices also reduced on colored G-E MAZDA "F" *Lamps*

† *Standard white* (3500°K)

G-E MAZDA LAMPS

GENERAL ELECTRIC

Condor WHIPCORD V-Belts

have 8 Points that Protect Production

You want no interruptions to output in this period of defense preparations. Part of continuous output is steady, dependable power delivered at the machine as nearly unfailingly as skill, construction and workmanship can make it.

This is why Condor Whipcord V-Belts are finding a constantly greater demand. They are delivering top performance and record service. The reasons are in the 8 Points—more fully explained in a new data book. Send for it.

8 Advantages

1. Minimum Ultimate Stretch.
2. Wide Margin of Effective Strength.
3. Uniform Flexibility.
4. Maximum Resistance to Structural Breakdown.
5. Smooth Running.
6. Maximum Traction.
7. High Resistance to Side Wear.
8. Correct Lateral Reenforcement.

Condor PRODUCTS

Compensated Belt
Conveyor and Elevator Belt
Transmission Belt
V-Belt
Agricultural Belting
Air Hose
Acid Hose
Contractor Hose
Fire Hose
Hydraulic Hose
Oil and Gasoline Hose
Sand Blast Hose
Steam Hose
Suction Hose
Water Hose
Chute Lining
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Industrial Brake Blocks and Lining
Molded Rubber Goods
Rubber Lined Tanks
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THE MANHATTAN RUBBER MFG. DIVISION
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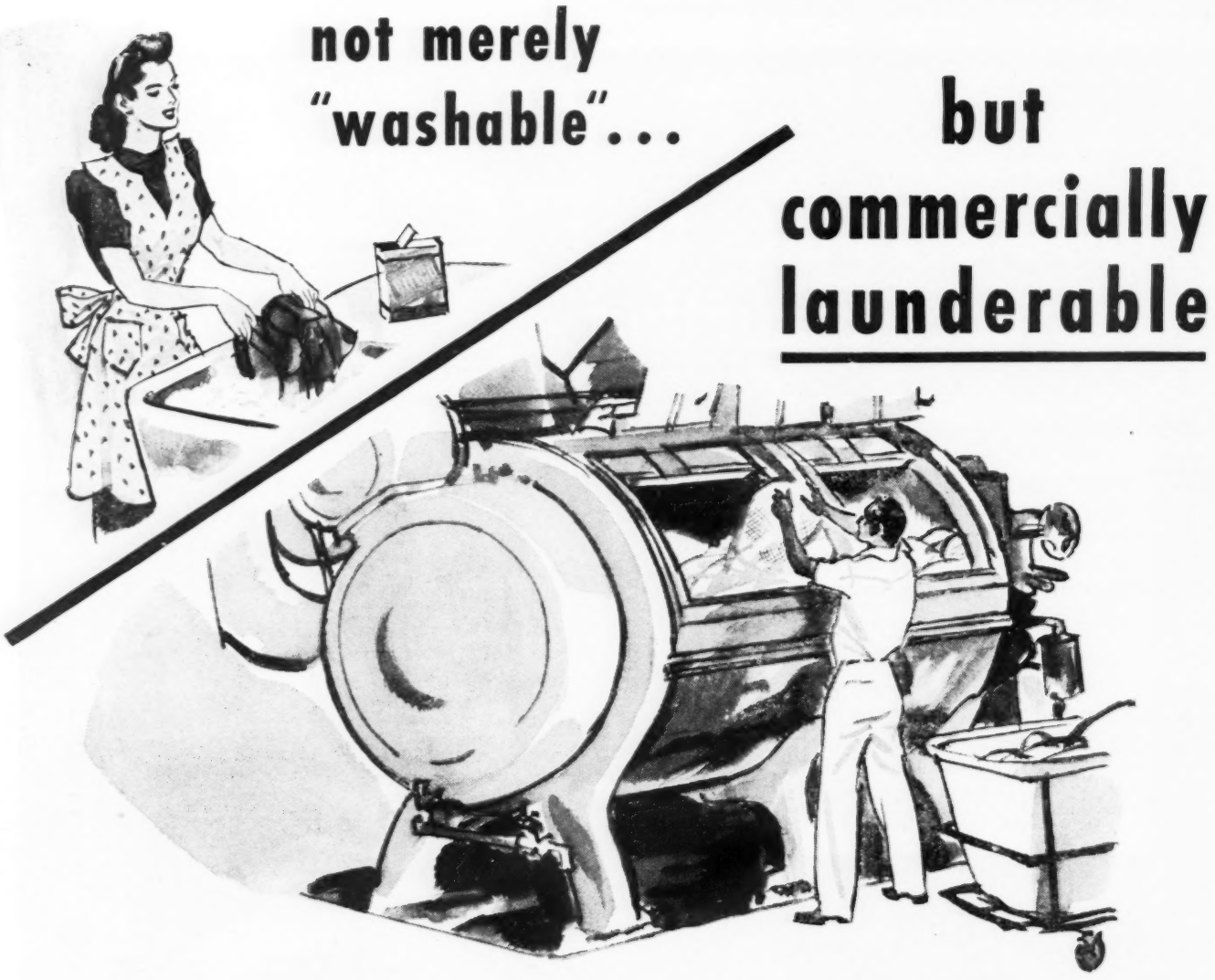


TECA* BLENDS

REG. U. S. PAT. OFF.

first laundry-approved spun rayon fabrics

LAUNDERED THREE TIMES, not by gentle home methods, but by the powerful machines of the commercial laundry. This is the severe triple-test which a fabric must pass to earn the "laundry-approved" label of the American Institute of Laundering. It is not surprising that blends containing Teca, Eastman crimped acetate rayon, are the first spun rayon fabrics to pass this test. Because Teca is a fiber that undergoes little or no change when wet, laundry-approved Teca Blends are fabrics with spun-in stability, built-in resistance to shrinking or stretching . . . Men's and women's garments of launderable TECA BLENDS, made to approved specifications, will be entitled to this label, guaranteeing their acceptance for laundering by any of the 2,200 laundries comprising the Institute membership. For further information about TECA BLENDS, consult . . .

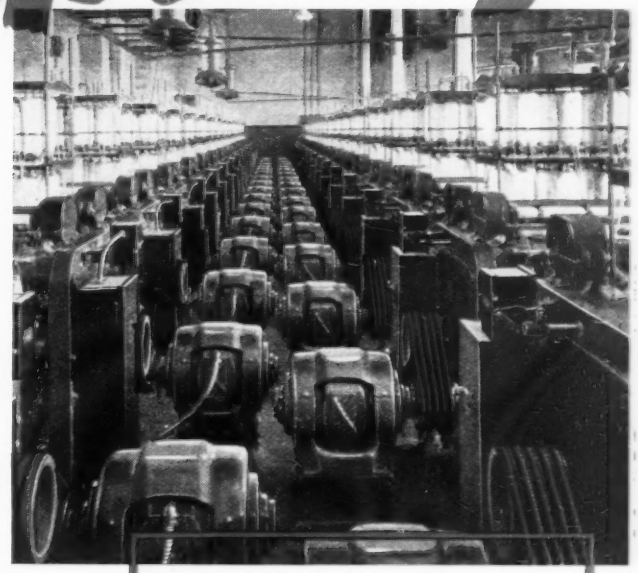
A. M. TENNEY ASSOCIATES, INC., 10 EAST 40TH ST., N. Y. C.

Sales representatives for Tennessee Eastman Corp., subsidiary of Eastman Kodak Co.

***EASTMAN CRIMPED ACETATE RAYON**

"I Started Something

WHEN I SUGGESTED VARIABLE SPEEDS FOR OUR SPINNING FRAMES!"



IN THIS TEXTILE MILL, MORE THAN fifty Texrope Vari-Pitch Drives are providing instantaneous speed changes on the spinning frames . . . with a speed variation range of approximately 25%! These variable speed transmission units, combined with special 10 hp Allis-Chalmers Quick-Clean Motors, assure modern flexible performance to answer all textile operating conditions.

"Yes Sir! Texrope Vari-Pitch Drives Are Doing a Big Job for Us . . . Saving Us Time and Money by Letting Us Operate Our Spinning Frames at Exactly the Right Speed at All Times!"

"YOU'LL BE amazed to know how many problems we licked by changing over the transmission on our spinning frames to the new Texrope Vari-Pitch variable speed drives.

"To change speeds we formerly had to take off a constant pitch sheave on the motor and replace it with a larger or smaller diameter sheave for the approximate speed we wanted. That took from 30 minutes to an hour and a half of wasted time!

"Now, with our new Texrope Vari-Pitch Sheaves, we change speeds instantaneously . . . without production delay. Not only that — we get the *exact* speed we want . . . not an approximate speed.

"And in breaking-in new frames, too, the Vari-Pitch sheaves permit slower breaking-in speeds . . . an important factor in long life for the frames.

"That's why I'm proud to say — 'I started something when I suggested variable speeds on our spinning frames!'"

Use Variable Speeds for Greater Profits!

If your spinning frames are still running on a fixed-speed basis . . . go modern! Get the advantages of variable speeds where and when you need them!

For complete information on Texrope Vari-Pitch Drives and Vari-Pitch Speed Changers . . . call the nearest Texrope representative . . . or write Allis-Chalmers, Milwaukee, Wisconsin.

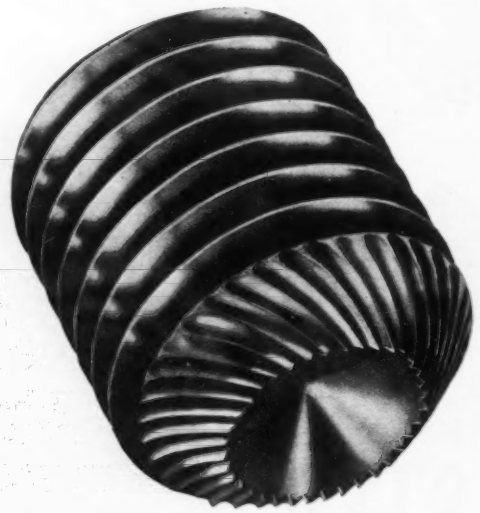
A 1264

Vari-Pitch Speed Changers • Texrope V-Belts • Duro-Brace Texsteel Sheaves • Vari-Pitch Sheaves • Standard Cast Iron Sheaves • Adjustable Pitch Diameter Texsteel Sheaves • 2-3-4 Combination Sheaves • Paraline Automatic Motor Bases • Oil Field Drilling Rigs.

Belts by Goodrich

ALLIS-CHALMERS

MILWAUKEE·WISCONSIN



Better Setup...

UNBRAKO

Reg. U. S. Pat. Off.

SELF-LOCKING SET SCREWS with the KNURLED POINTS

Set "Unbrako" Self-Lockers up with no more than ordinary effort and the ingenious knurled points dig in to provide a real, honest-to-gosh grip.

For, once in place, "Unbrako" Self-Lockers can't rattle loose no matter how severe the unwinding tendency. Yet they're easily adjusted or removed and they can be used over and over again with equal effectiveness.

Contrast this unfailing Knurled "Unbrako" protection with the uncertain performance of ordinary set screws which need a lot of maintenance attention, and are sometimes the cause of costly breakdowns and delays because of their failure to hold.

Small wonder that maintenance men in some of the largest and best known mills in the country have standardized on "Unbrako".

What about your own set-up? If you're not already using them, "Unbrako" Self-Lockers can save a lot of trouble and expense for you too. Details?

STANDARD PRESSED STEEL CO.

JENKINTOWN, PENNA. BOX 582

BRANCHES

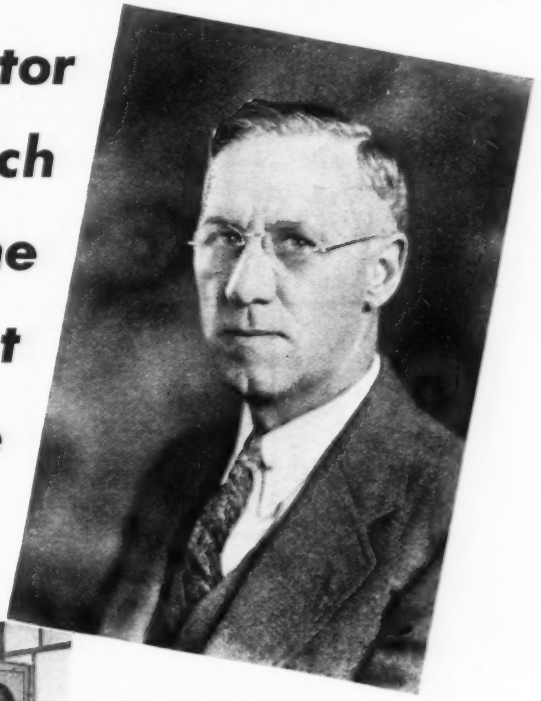
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

Reg. U. S. Pat. Office

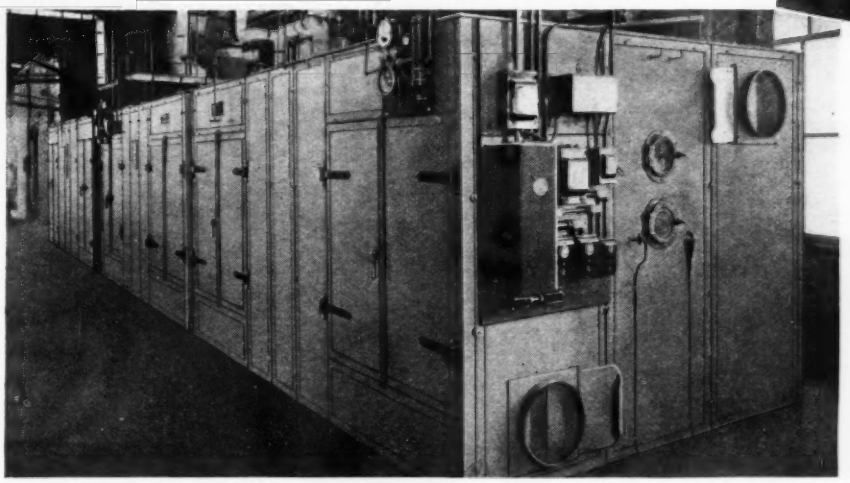
UNBRAKO Screw Products

"WE SCRAPPED OUR OLD DRYERS

and purchased 18 New Proctor Package Yarn Dryers which not only reduce drying time to a minimum but also put the yarn in the best possible condition."



Mr. W. A. Traver, Vice President and General Manager of all Franklin Process Company plants.



Battery of New Proctor Package Yarn Dryers installed at the Philadelphia, Pa. plant of Franklin Process Company.

W. A. Traver, Vice President and General Manager of all the Franklin Process Company plants says . . .

"As you know, the policy of our company has been constantly to improve the quality of our work; and, at the same time, to give our customers quick service.

"This has necessitated, in addition to a great deal of other equipment, the purchase of dryers that not only reduced the drying time to a minimum but also put the yarn in the best possible condition, which we have found in your PROCTOR Package Yarn Dryers.

"The air reversing mechanism and close control of temperature and humidity secured in your machines has justified us in scrapping a great many older dryers and replacing them with your new machine.

"In fact, the best testimonial we can give you is that, from 1936 to the present time, we have either installed or on order a total of eighteen of your large-size dryers divided up among our various plants; and we are very glad to recommend these machines most highly for the drying of package yarn."

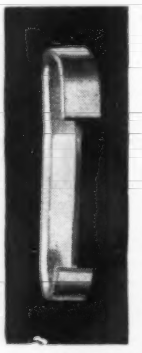
PROCTOR *Package Yarn* DRYERS

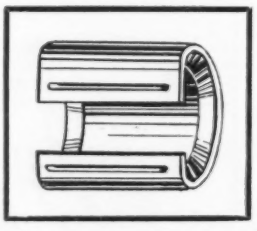
PROCTOR & SCHWARTZ, INC PHILADELPHIA

**Send for Bulletin 40*

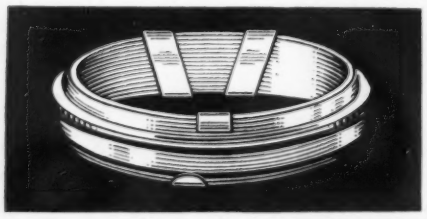
DO POOR TRAVELERS Steal YOUR Spinning Efficiency?

Change to U. S. RING TRAVELERS and Save Money--





Left and above — Bowen — *Patented* — Bevel Edge — The Bowen Patented Bevel Edge feature of U. S. Ring Travelers produces ideally smooth, even yarn. There are no angular edges to flatten the end. There are no split ends in throwing rayon and silks—no fly waste in the spinning and twisting of cotton, wool, worsted, asbestos, kindred fibres. Made and stocked in all sizes and weights, for all kinds and counts of yarns.



Above—Bowen *Patented* Vertical Offset Traveler—After exhaustive tests under actual running conditions, the Bowen Patented Vertical Offset Traveler has proved its worth in the twisting of cords and plys. Based on the true mechanical principle of taking a diagonal position with relation to the ring, presenting a bearing surface over the full width of the Traveler. This design prevents gripping or binding—gives an even tension—an evener rounded product—longer life to the traveler. Send for samples and prices.

Left — High — Ne-Bow — *Patented* Vertical Ring Traveler—Developed to meet the particular needs of the silk and rayon trade in the process of throwing, due to the recent adoption of the vertical ring, particularly of the lubricating type.

By eliminating the pivoting action of the traveler, the traveler is at all times kept in close contact with the groove or device for lubricating the ring and assists in drawing therefrom the lubricant, distributing the same evenly over the entire inner surface of the ring; promoting a longer life to the traveler and a more even twist.

Get smooth, trouble-free spinning from U. S. Ring Travelers. Made from carefully selected, pre-tested material. Metal alloys RIGHT. U. S. Ring Travelers cut spinning costs and increase general efficiency. They stay on the job longer. Don't experiment — Standardize on U. S. Ring Travelers and save money.

This sealed Metal Shipping Container protects you. On a par with the high quality of U. S. products is the care we take to see that they reach you in perfect condition.

U. S. RING TRAVELER CO.

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN, Pres. and Treas.

REPRESENTATIVES

WILLIAM P. VAUGHAN.....P. O. Box 792, Greenville, S. C.
WILLIAM H. ROSE.....P. O. Box 792, Greenville, S. C.
TORRENCE L. MAYNARD.....P. O. Box 456, Belmont, N. C.
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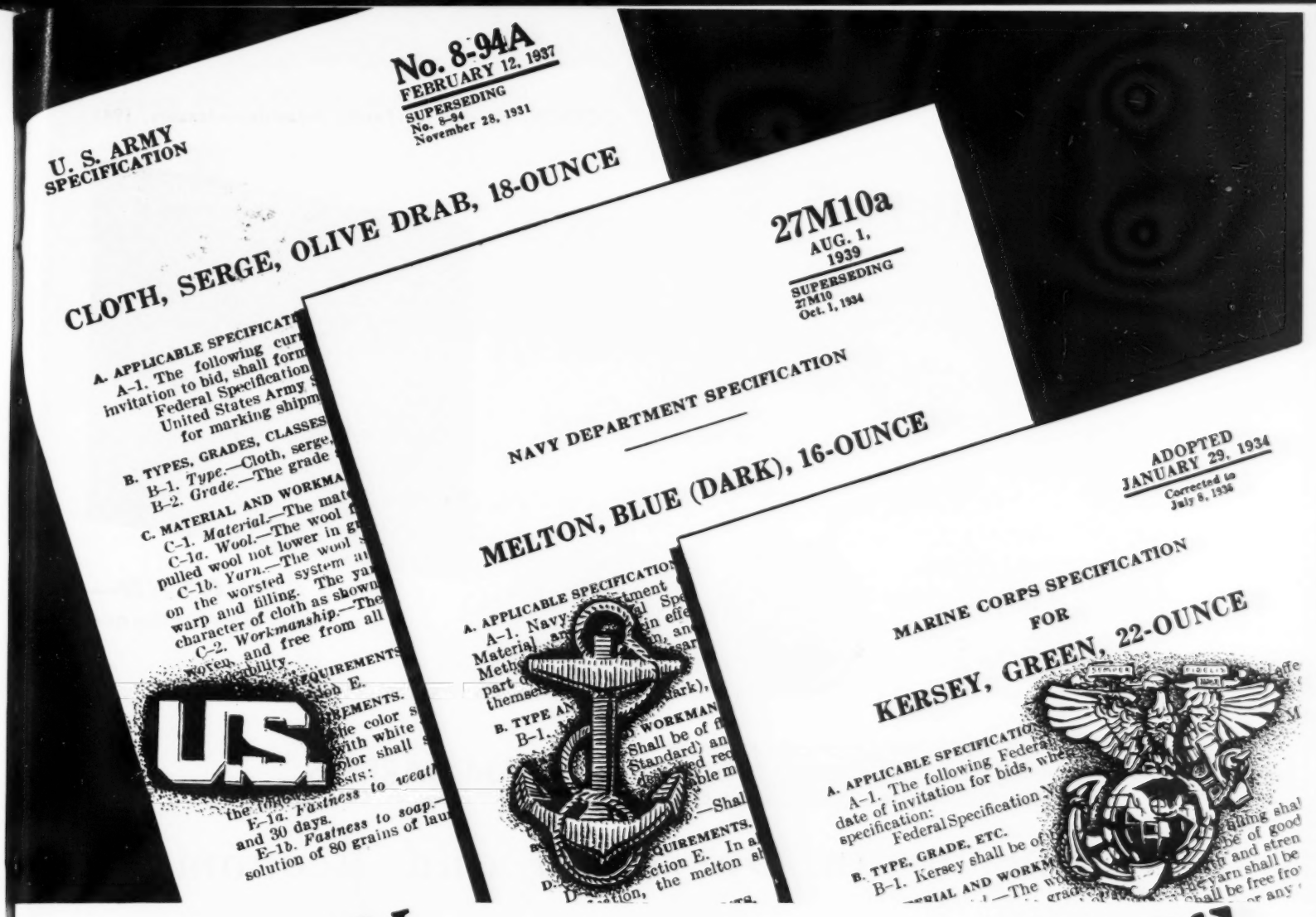
UNIVERSAL STANDARD RING TRAVELERS

U.S. RING TRAVELER CO.

BOWEN PATENTS

"A Traveler for Every Fibre"



ARMY NAVY or MARINES

WHATEVER THE SERVICE SPECIFICATION NATIONAL STANDS READY TO SERVE YOUR COLOR NEEDS

National has a full range of stocks to meet exacting government specifications on uniform cloths, webbing, belting, blankets, denim and every other military fabric.

National Technical Service has unparalleled practical experience in the preparation of color formulas for all military fabrics to meet your particular mill conditions.

FOR IMMEDIATE SERVICE ON COLOR STOCKS, FORMULAS AND APPLICATION DATA WIRE, PHONE OR WRITE

NATIONAL ANILINE & CHEMICAL COMPANY, INC.

40 RECTOR STREET **NEW YORK, N. Y.**

BOSTON	150 Causeway St.	SAN FRANCISCO	317 Howard St.	NEW ORLEANS	Masonic Temple Bldg.
PROVIDENCE	15 Westminster St.	CHARLOTTE	201-203 W. First St.	CHATTANOOGA	James Bldg.
CHICAGO	357 W. Erie St.	GREENSBORO	Jefferson Standard Bldg.	PORTLAND, ORE.	730 West Burnside
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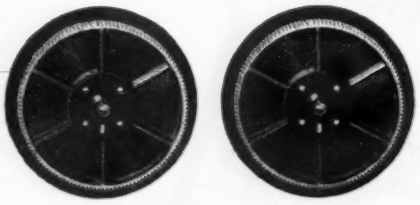
BRANCHES AND DISTRIBUTORS THROUGHOUT THE WORLD

LOOM BEAMS

PROVED—
By Performance

BEAM HEADS



BEAM BARRELS

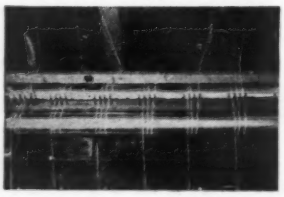
Superior in Operation and Economy

The beam barrels are made of a select grade of suitable wood, thoroughly seasoned. Journals are made from a tough plow steel to increase the wearing life. The wood grain is protected from moisture by a coat of special sealer and lacquer. All barrels are machined straight and true.

The beam heads are made of a high grade cast iron and are designed to reduce breakage. The pocket and bore of head is machined to fit barrel snugly and squarely.

The loom beams run true. Their sturdy and rugged construction will give long and satisfactory service. Our loom beams will help you to increase your weave room efficiency.

Other QUALITY Products



THE BACHMAN GUIDE . . . eliminates heavy top rollers. "Blow Outs" reduced about 90%. Permits increase in twister speed.

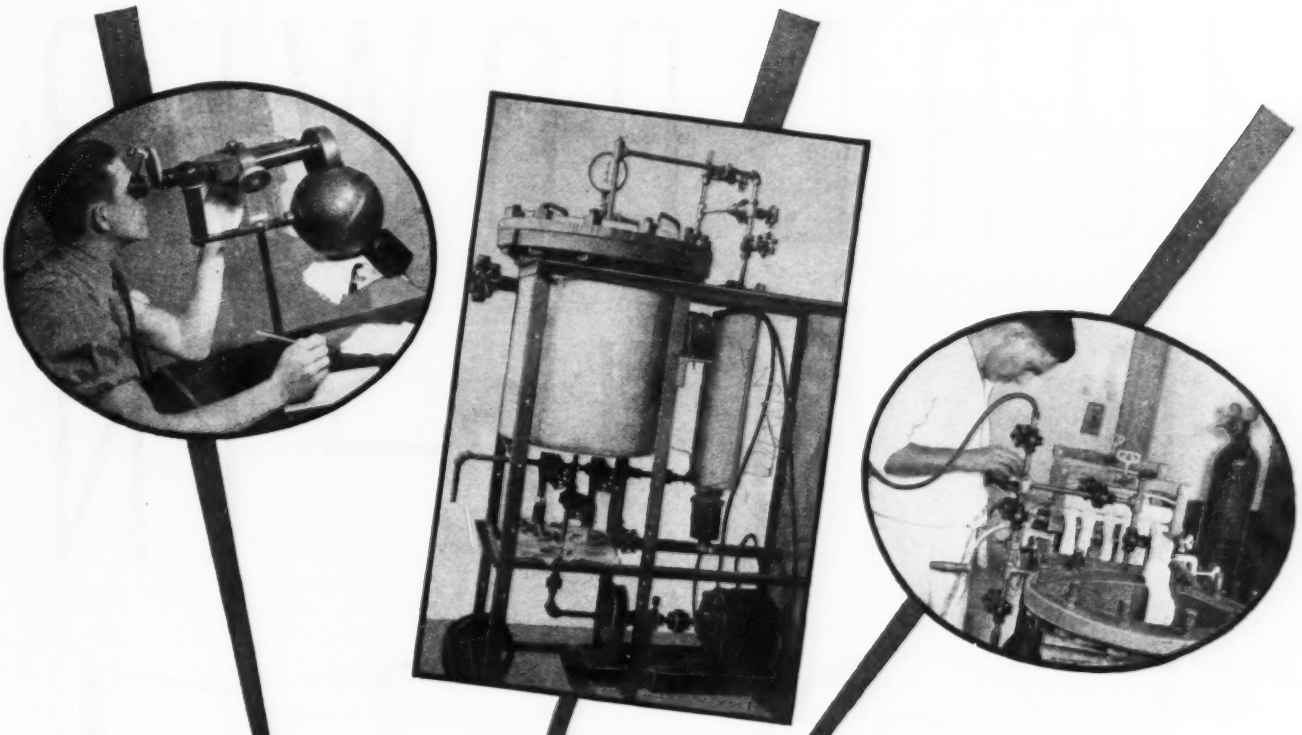
GEARS . . . Gears of all types —noted for their efficiency and durability.

Also manufacturers of special textile machinery, textile repair parts, gears, slasher modernization equipment, and cloth room machinery.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA



STANDARD Kier-Boiling SERVICE

- *Make Your Kier-Boiling Formula More Efficient*
- *Improve Whiteness of Your Fabrics*
- *Get Minimum Tensile Strength Loss*
- *Secure Maximum Absorbency*

Standard maintains complete laboratory equipment for Kier-Boiling Research, and can help develop the most effective procedure for your particular needs. This is a vital service for progressive textile manufacturers—a service that costs you nothing! Why not put *your* problem up to Standard?

T-1

DIAMOND ALKALI COMPANY • Standard Silicate Division

Plants at CINCINNATI · JERSEY CITY
LOCKPORT, N.Y. MARSEILLES, ILL.

General Offices • PITTSBURGH, PA.

MORE POWER TO YOU—IN 1941

This is more than a New Year's wish to our friends in the textile industry. . . . The conservation of power—through the designing and installation of *power-saving* equipment for mechanical power transmission—is a service we've been rendering many of them since 1890. . . . May we serve you *too* during 1941—a year when every unit of power will be needed?

SOUTHERN BELTING COMPANY

Manufacturers and Distributors

ATLANTA

Leather Belting	Rubber Belting	V-Belts and Sheaves	Fiber and Metal Pulleys	Rock-Southern Pivoted Motor Drives	Reeves Variable Speed Transmissions

THE MIRACLE OF
MARCUS HOOK

THIRTY YEARS AGO, on December 19, 1910, a group of engineers and scientists gathered in a new, unusual plant at Marcus Hook, Pa. This was to be the first commercial production of a man-made textile fiber in the U. S.

Finally, someone gave a signal. Machinery sprang to life. And from the equipment there began to issue slender filaments which were led through a chemical solution, then collected in the form of yarn.

A new American textile industry was born!

The progress of America's rayon industry in the thirty years that have passed since that first successful production in the Marcus Hook Plant of American Viscose Corporation is now history. Rayon has marched steadily ahead as it has made possible new, more beautiful and more durable fabrics. Today, it employs 49,000 American men and women, and annually produces more than 300 million pounds of yarn. An outstanding example of American achievement.

From the first, American Viscose Corporation has figured prominently in every major development. It pioneered many vital advances for cost reduction, price reduction, and quality improvement. It established the Crown Quality Control Plan to assure consumers the quality they want in rayon merchandise. It instituted the "Textile Unit," a full-sized textile research plant, in order to better serve the industry.

American Viscose Corporation is proud of its 30-year record of achievement. And now, embarking on its fourth decade, it pledges continuance of the progressive policies which have stimulated the growth of the American rayon industry.

AMERICAN VISCOSE CORPORATION

Lustre Fibres, Ltd., SELLING AGENTS, 350 Fifth Avenue, New York

SALES OFFICES: NEW YORK, N. Y., CHARLOTTE, N. C., PROVIDENCE, R. I., PHILADELPHIA, PA.

World's Largest Producer of Rayon Yarn

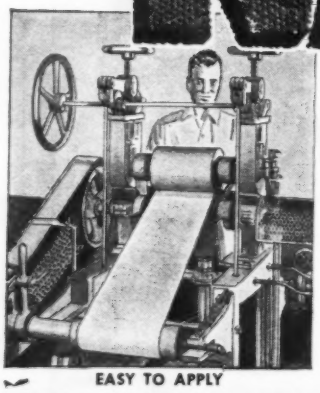
PLANTS IN . . . . MARCUS HOOK, PA.
PARKERSBURG, W. VA. • NITRO, W. VA.

ROANOKE, VA. • LEWISTOWN, PA.
MEADVILLE, PA. • FRONT ROYAL, VA.

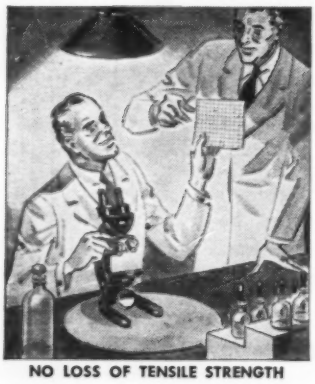
PROGRESSIVE PROCESSORS

NAPENIZE

THE POSITIVE ANTI-MILDEW TREATMENT

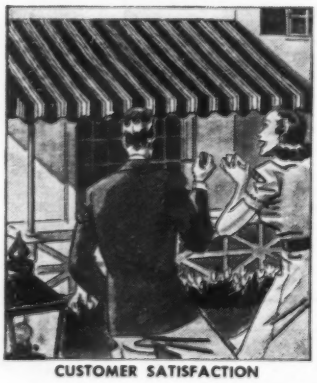


EASY TO APPLY



NO LOSS OF TENSILE STRENGTH

INEXPENSIVE TO BUY



CUSTOMER SATISFACTION

Canvas Products

Processors NAPENIZE* their canvas products to give them positive anti-mildew protection.

When they NAPENIZE, the physical affinity of the chemical compound for the cloth assures a more permanent protection than has been possible before and, consequently, far longer life for the treated product. No waterproofing is required to retain the effectiveness of the treatment during exposure to the elements.

Progressive processors have been quick to take advantage of NAPENIZE, the new anti-mildew treatment. It is easy to buy, low in cost and assures customer satisfaction because it provides more effective protection without loss of tensile strength. If you are not already familiar with this outstanding development in the processing field, write to Dow today for more complete information and specifications. Inquiries are welcomed.

DOW

*Pat. applied for

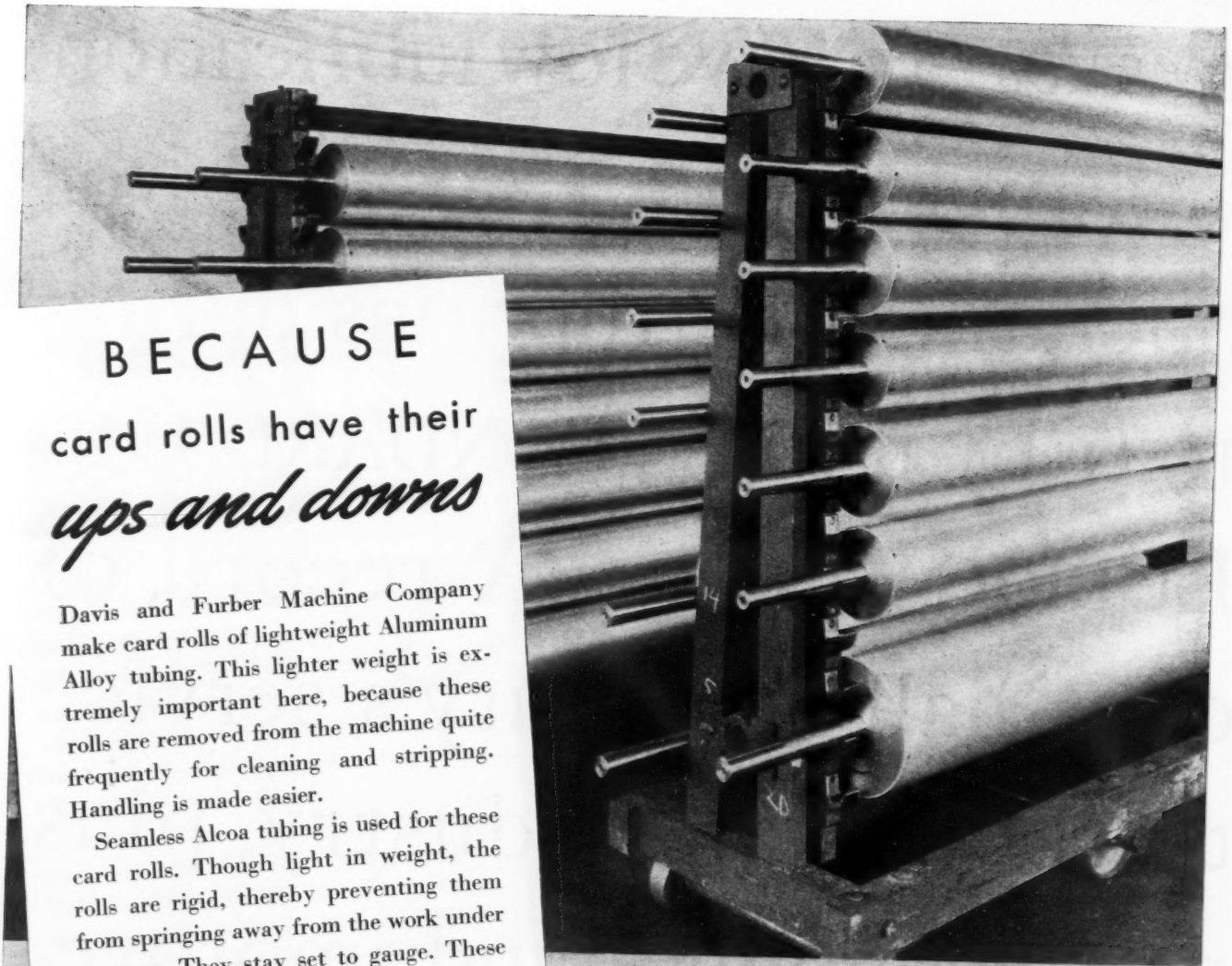
THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Branch Sales Offices: New York, St. Louis, Chicago, San Francisco, Los Angeles, Seattle

Resolve—to have low lubrication and maintenance costs—fewer operating interruptions during 1941 by using STANDARD OIL LUBRICANTS . . . A record of over half a century's service to the textile industry, plus new economies and improvements which result from lubrication research, make STANDARD OIL LUBRICANTS outstanding!

STANDARD OIL COMPANY

INCORPORATED IN KENTUCKY



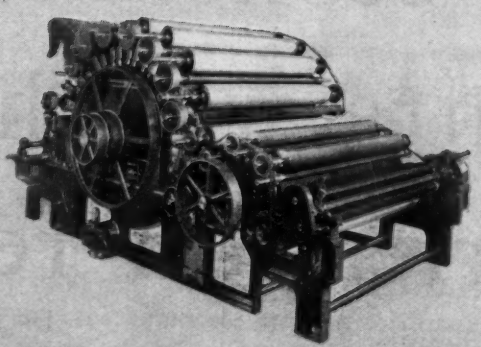
BECAUSE

card rolls have their *ups and downs*

Davis and Furber Machine Company make card rolls of lightweight Aluminum Alloy tubing. This lighter weight is extremely important here, because these rolls are removed from the machine quite frequently for cleaning and stripping. Handling is made easier.

Seamless Alcoa tubing is used for these card rolls. Though light in weight, the rolls are rigid, thereby preventing them from springing away from the work under pressure. They stay set to gauge. These Aluminum rolls perform well at high speeds, for they are accurately balanced.

Data on Aluminum tubing and other Alcoa products is contained in the book, "Alcoa Aluminum and its Alloys." Designers and maintainers of textile machinery will find this information very valuable. For a copy, write ALUMINUM COMPANY OF AMERICA, 1939 Gulf Building, Pittsburgh, Pennsylvania.



DEFENSE COMES FIRST

To meet the needs of the National Defense Program, plus the normal demands of peace, a vast expansion of our already greatly increased production capacity is being speeded. When the emergency is past, there will be more Aluminum available than ever before.

Meanwhile, if you can't get <u>all</u> the Aluminum you want <u>when</u> you want it, remember Aluminum is helping you by helping to meet the National emergency.

ALCOA ALUMINUM

ALCOA ALUMINUM

. . . and STALEY STARCHES
Have "What It Takes"

★ Long experience, modern laboratories, experienced personnel and watchful control are necessary to produce the *right* starch for each specific textile use — and keep it uniformly *right* in GRADE, and uniformly *high* in QUALITY. That's why Staley Starches "have what it takes". Depend upon Staley cooperation and service for your starch needs.

A. E. STALEY MFG. CO.

Decatur, Ill.

Atlanta Philadelphia Dallas New York Spartanburg San Francisco Chicago Boston

Announcing HENDERSON'S NEW REPAIR PARTS CATALOG

Send for your copy **NOW!**

HENDERSON FOUNDRY & MACHINE WORKS, HAMPTON, GA.

Without obligation, send me your new Repair Parts Catalog.

NAME .....

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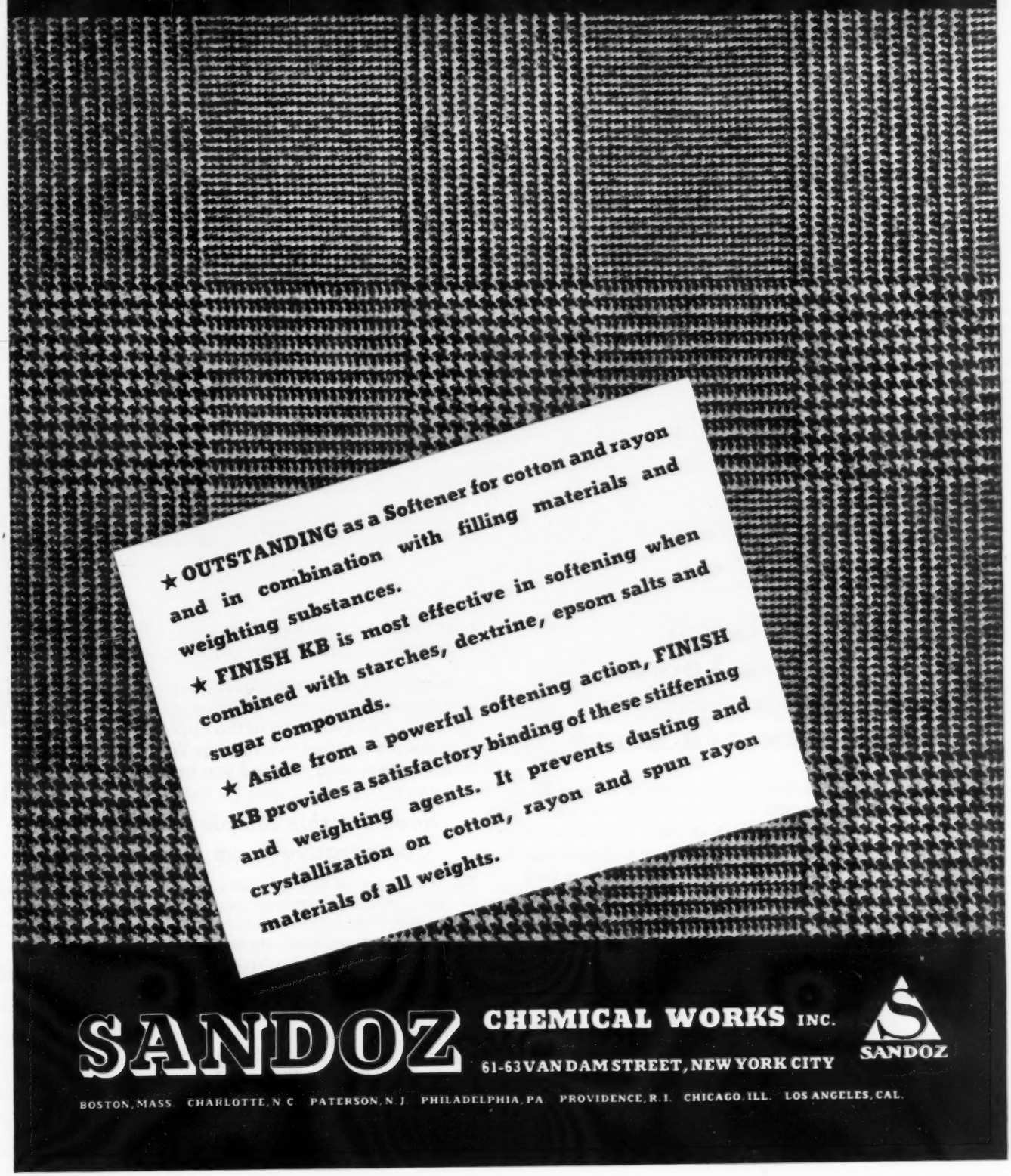
EVERY mill that has used HENDERSON Textile Repair Parts KNOWS they are tops in quality, accuracy and ability to stand up under the hardest use. The new Parts Catalog just issued will be of great value to textile mills as it has been compiled with a view towards rendering a more efficient and effective service to the many users of HENDERSON Repair Parts. It will be sent gladly on request, without obligation. Use the coupon at left and secure your copy NOW.

FINISH ★ KB

FOR COTTON AND RAYON



★ **OUTSTANDING** as a Softener for cotton and rayon and in combination with filling materials and weighting substances.

★ **FINISH KB** is most effective in softening when combined with starches, dextrine, epsom salts and sugar compounds.

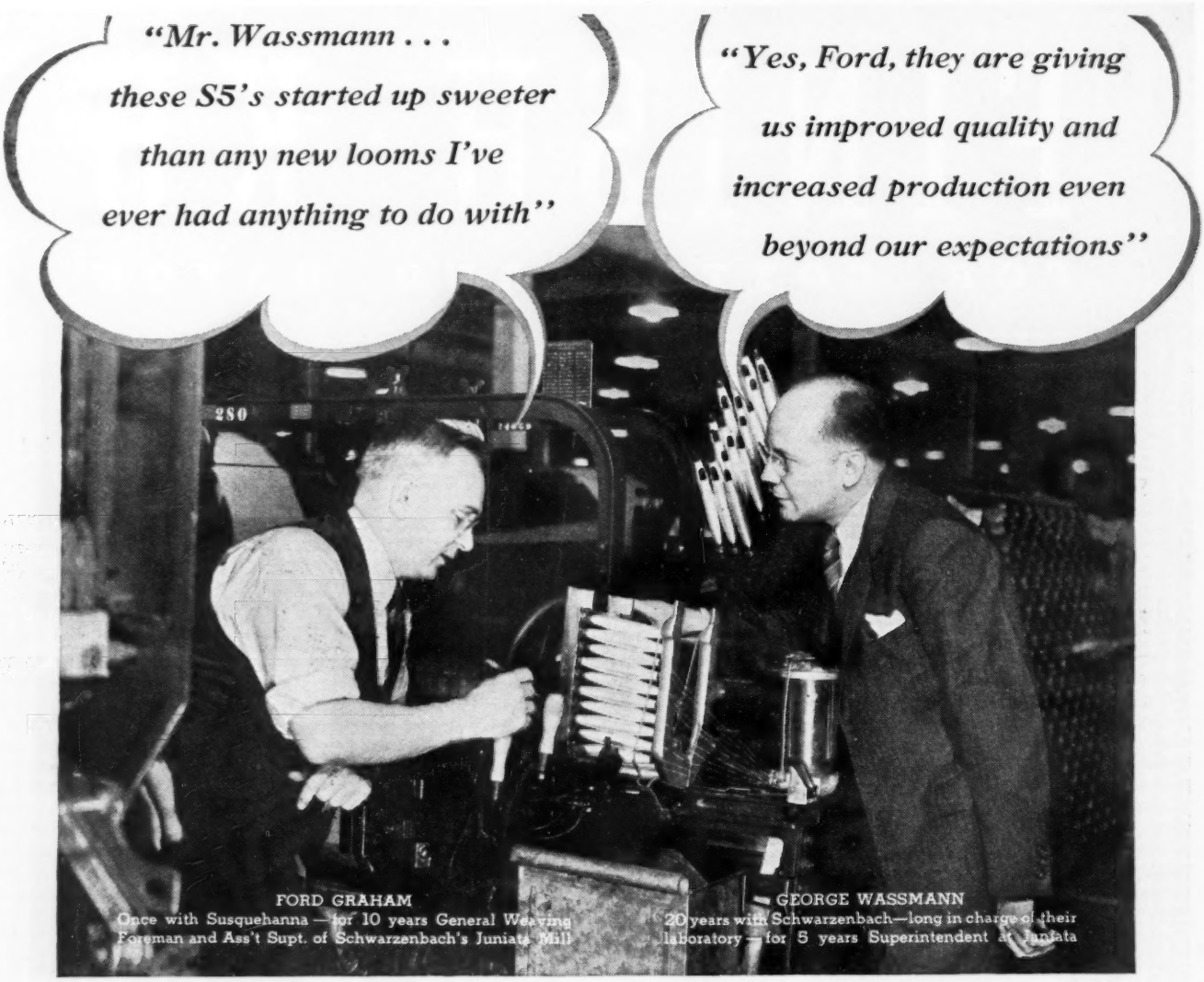
★ Aside from a powerful softening action, **FINISH KB** provides a satisfactory binding of these stiffening and weighting agents. It prevents dusting and crystallization on cotton, rayon and spun rayon materials of all weights.

SANDOZ CHEMICAL WORKS INC.

61-63 VAN DAM STREET, NEW YORK CITY

SANDOZ

BOSTON, MASS. CHARLOTTE, N.C. PATERSON, N.J. PHILADELPHIA, PA. PROVIDENCE, R.I. CHICAGO, ILL. LOS ANGELES, CAL.


"Mr. Wassmann . . . these S5's started up sweeter than any new looms I've ever had anything to do with"
"Yes, Ford, they are giving us improved quality and increased production even beyond our expectations"
FORD GRAHAM
Once with Susquehanna — for 10 years General Weaving Foreman and Ass't Supt. of Schwarzenbach's Juniata Mill
GEORGE WASSMANN
20 years with Schwarzenbach—long in charge of their laboratory — for 5 years Superintendent at Juniata

Looking at it from all angles . . .

New C & K S5 Rayon Looms

prove sound investments for SCHWARZENBACH HUBER

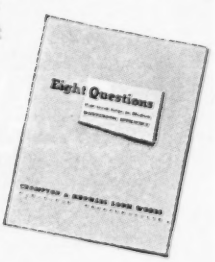
After a year's test of two looms a battery of new S5, high speed, Rayon Looms is going into a new weave room at the Juniata Mill. This is clear evidence of Schwarzenbach Huber's firm belief in a systematic modernization program. And as Vice-president Glaesel writes: "The S3 shuttle changers are operating splendidly, but we expect even greater things from these new S5's."

Schwarzenbach Huber bought their first Crompton looms in 1895 and since then—in forty-five years—have purchased over 4500 C&K looms. And now the S5 is definitely a part of their plans for the future.

In a measure, Schwarzenbach Huber has served you as a testing laboratory. Their experience will also be yours . . . if you will give us the opportunity to work out with you a simplified twelve-page Weave Room Survey, which we are ready to send you by return mail. So . . .

Send for this Simple Evaluator of Comparative Loom Efficiencies:

This book points out how and where to look for inefficient looms . . . asks questions that bring out valuable information . . . supplies check-sheets that produce vital facts. **C & K does most of the work** . . . in fact, we would like to go all the way through with you . . . to a completed plan that will readily enable you to replace, each year, at least 10% of your least efficient looms.



Crompton & Knowles Loom Works

WORCESTER, MASSACHUSETTS

The World's Largest Denim Weave Shed

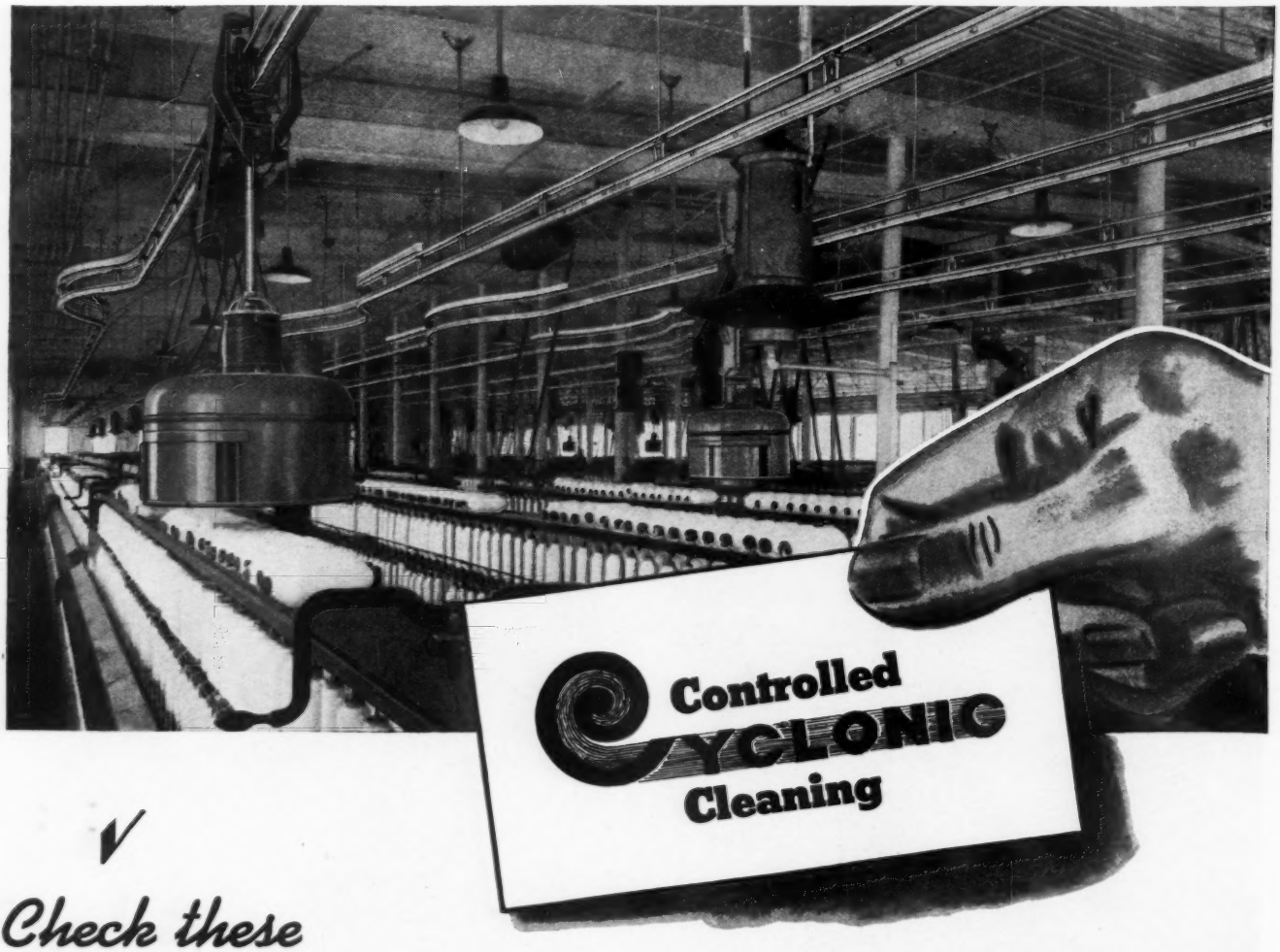
Has Adequate Humidification Controlled Within Close Limits

The largest denim weave shed in the world is that of the White Oak Cotton Mills, Greensboro, North Carolina, makers of **CONE** *deeptone* **DENIM.**

In this vast plant, as in other mills of the Proximity Manufacturing Company, adequate humidification is assured by installations of Amco No. 4 automatic Atomizers. Completely self-cleaning, both air and water nozzles, they supply a big volume of finely atomized spray without drip or feathering down. And Amco humidity controls provide fully automatic regulation, holding humidities closely to prescribed limits.

In scores of similar important installations, Amco has proved the wisdom of the phrase: "Take your textile humidification problem to the textile humidification specialist!" American Moistening Co., Providence, R. I. Atlanta, Ga. . . . . Boston, Mass. . . . . Charlotte, N. C.

Amco HUMIDIFICATION



✓ *Check these Results*

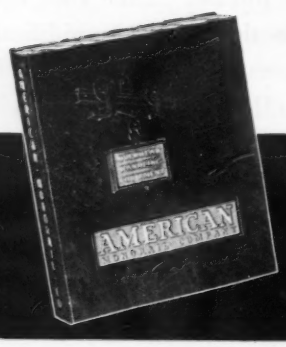
- ✓ BETTER RUNNING WORK
- ✓ FEWER GOUTS OR BUNCHES
- ✓ LESS ENDS-DOWN
- ✓ SPINNERS HANDLE MORE SIDES
- ✓ LOWER CLEANING COSTS
- ✓ NO LOST PRODUTION
- ✓ REDUCED MACHINE STOPPAGE

AUTOMATIC cleaning is no longer an experiment. For four years American MonoRail cleaners have proved that a swirling column of air removes lint effectively from spinning, winding, twisting or warping machines. The cyclonic action set up is carefully controlled and accurately directed so that roving is protected while air currents swirl around creel boards, bobbins and guides.

American MonoRail cleaners also send a direct blast of air toward the ceiling to prevent accumulation of lint on overhead equipment.

Such cleaning keeps machines producing full time . . . enables operatives to increase their output . . . reduces gouts or bunches in the yarn.

Let an American MonoRail engineer explain these advantages at no obligation to you. Write for copy of book describing Automatic Cleaning and Overhead Handling in the Textile Industry.



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SERVING THE
Textile Industries

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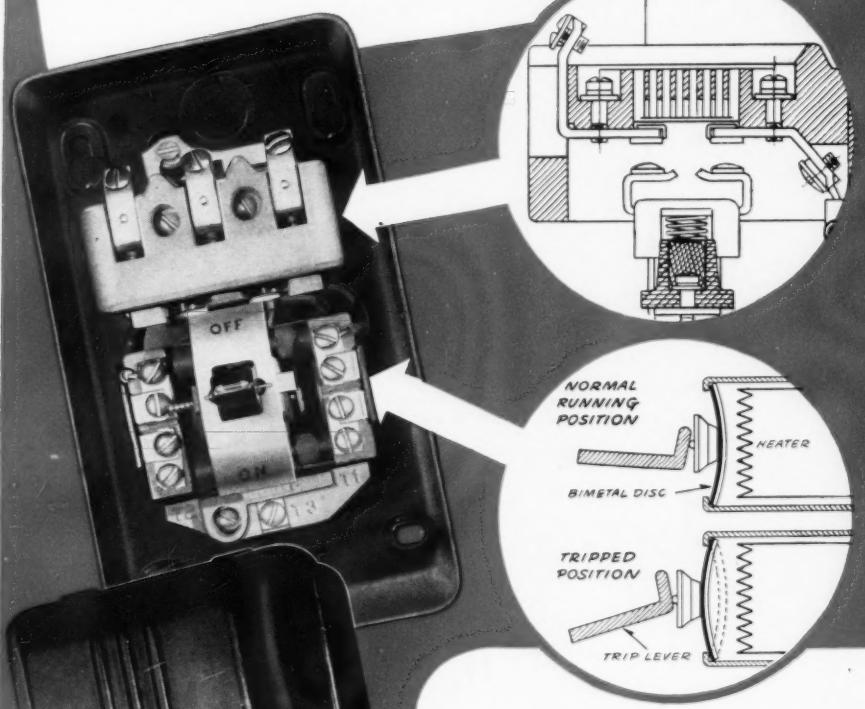

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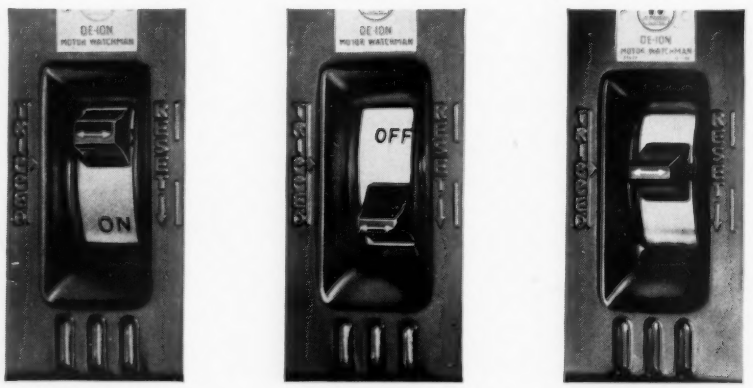

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That's Why *LINT-FREE* Motors Reduce Maintenance Costs...

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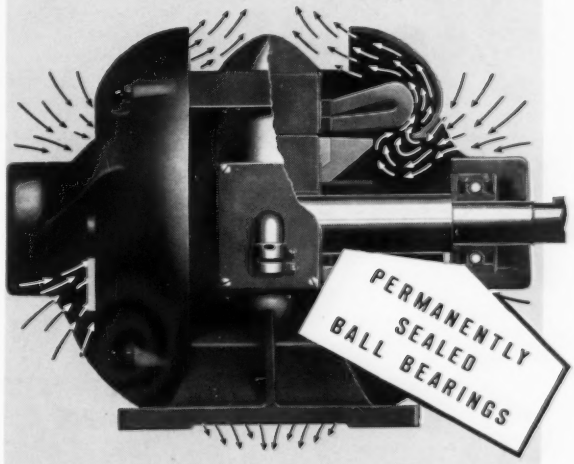

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SHORTS AND REMNANTS

"Do Not Open Until 6939"

Looking back over 1940, we can certainly give credit to one of our advertisers, Westinghouse Electric & Manufacturing Company for the most *forward looking* achievement of the year in their Time Capsule, an 800-pound "letter to the future". This metal cylinder was buried in a 50-foot "Immortal Well" in front of the Westinghouse

Building at the New York World's Fair and started on a *5,000-year journey*. Above officials are tilting a heated cauldron to release a special compound of pitch to seal the metal cylinder which will give people of 6939 a picture of our day. Included in the cylinder were about 75 swatches of various textile materials and weaves of cloth, including asbestos, cotton, glass fabric, linen, rayon, rubber fabric, silk and wool swatches.

◆

From Below the Equator

Hugh M. Comer, just returned from a seven-week trip to South America, on which he visited mills in Brazil, Uruguay, Argentina, Chile, and Peru, wrote to the editor of COTTON:

". . . those people down there like you a lot. They think there is nothing like you and your magazine, COTTON, which is their Bible."

"We have read with a good deal of interest the information (supplied in answer to a request) and appreciate. . ."

SAID E. HIJOS

La Paz, Bolivia.

"We take the liberty of forwarding on to you herewith a letter we have addressed to the makers of Obermaier dyeing machines in the U. S. A. . . . ."

J. B. LORZ

Comp. Flacoa E. Tecelagem,
Sao Paulo, Brazil.

◆

From Manila

"The undersigned is one of your recent subscribers who is deeply interested to come in contact with screen printing machinery manufacturers. . ."

FRANCISCO R. LOPEZ

Philippine Dye-House, Inc.,
Manila, Philippines.

COMING ISSUES—1941

February — Annual Modernization and Maintenance Number.

March—Southern Textile Exposition Number.

April—Knitting Show Number.

Reminder

A complete topical cross-index of the articles published in COTTON during 1940 appeared as a supplement in the December issue. If you missed yours, look for it immediately under the front cover. Better retrieve it before it gets away.

◆

Add Orchids

If you still have your December COTTON, and we hope you have, turn back to page 3 and re-read: "It is not so futile that we so live. . ." Congratulations to Warner Chemical Co. and Jas. J. McMahon Inc. agency.

◆

"Finishing Materials"

"We have two copies of COTTON arriving regularly each month. . . We would greatly appreciate the opportunity to purchase two more copies of this valuable book [Finishing Materials] by Andrew Clark."

HENRY A. WHITEHEAD

Standard Bleachery & Ptg. Co.,
Carlton Hill, N. J.

◆

Need a Model?

George B. Tobey, of the advertising department of Willcox & Gibbs Sewing Machine Co. had a number of inquiries as to the little boy who modeled overalls, underwear, play suits, snow suits, pajamas and bathing suits in their advertisement on page 139 of May 1940 COTTON.

The attractive model was George B. Tobey, Jr., and he did so well that one of the popular ladies' magazines has used him for a model since.

◆

Correspondence Courses on Textile Chemistry

"I have been approached by two of my employees as to whether or not a correspondence course in textile chemistry can be obtained from any of the textile schools."

MILTON J. HOFFMAN

The Alden Mills,
New Orleans, La.

(Textile schools to whom this inquiry was referred suggested the International Correspondence Schools, Scranton, Pa.)

◆

Blankets Named for Blanket

"I recently saw in your magazine a statement that blankets were named after a Thomas Blanket of England. Have you any further information along this line?"

W. W. RAWLINSON

Supt. Blanket Division,
Pepperell Mfg. Co.,
Biddeford, Maine

(This brief item on page 59 of the March issue was taken from a book in the library of Texas Technological College, at Lubbock, Texas.)

"Cotton" Helpful

"I read most of the technical articles that appear in COTTON, and in most instances the information is very helpful to me."

HENRY D. BLAKE

The Torrington Co.,
Greensboro, N. C.

◆

"Joining FF Machines"

"We read with a great deal of interest the article in your November issue by Caswell Clifton on 'Some Methods Used in Joining Full-Fashioned Machines'."

WALDEMAR WALLNER

Virginia Maid Hosiery Mills, Inc.,
Pulaski, Va.

◆

No More July Issues

". . . . also do you have any extra copies of your July issue on spun rayon?"

G. B. SESSIONS

Martha Mills,
Thomaston, Ga.

(The supply of copies of July 1940 Spun Rayon Issue has been exhausted by more requests for additional copies than for almost any other issue in our history.)

◆

On Sanforizing

"I read with much interest the various answers on Sanforizing and yarn twist problems as discussed on page 56 of your November issue. . ."

W. H. HARRISS

Cluett, Peabody & Co., Inc.,
New York City.

◆

Book on Underwear

"Do you have a book on underwear—telling how it is knit and the different operations. . ?"

STEWART C. HAGGERTY

Reading, Pa.

(This reader was referred to the Underwear Institute, Inc., 2 Park Ave., New York City.)

Meet Cotton's Staff (No. 12)

VICE-PRESIDENT AT EASE

Mr. W. S. Cushion, vice-president of "Cotton" with offices at 506 The Arcade, Cleveland, Ohio, must have all of his contracts for 1941 well in hand, judging from the satisfied look above. With a record of 35 years, most of it spent in the Central West, "Cush" is the dean of "Cotton's" advertising salesmen, and has a longer continuous record, we believe, than any other industrial publication salesman in the country.

"Now WE HAVE 42 ENDURO VATS EACH SAVING US MONEY"

BERGER MANUFACTURING DIVISION
CULVERT DIVISION
NILES STEEL PRODUCTS DIVISION
STEEL AND TUBES DIVISION
UNION DRAWN STEEL DIVISION
TRUSCON STEEL COMPANY

REPUBLIC ENDURO *Stainless* STEEL

. . . another large dyehouse replaces only with proved, money-saving ENDURO Stainless Steel

One by one, the old vats in this large dyehouse have been replaced with modern vats lined with ENDURO* Stainless Steel . . . *and for the following sound, money-saving reasons!* "Even after years of service we find our ENDURO vats are still completely free from corrosion, and we expect them to stay that way," says the Superintendent of this large shop. "We can clean the linings in just a few minutes . . . and switch from one color to another with just a simple 'wash and wipe'. We get more work with fewer tanks, too, because we no longer need 'part-time' tanks for dark or light shades. And the actual dyeing results we get are far superior, for colors come bright and true; and rejected goods because of spotting and damage, is a thing of the past." Let us send you all the facts on this cost-cutting installation, and suggest ways that you, too, can save money with equipment made from ENDURO Stainless Steel. Write Republic, Dept. CO, at Cleveland.

*Reg. U.S. Pat. Off.

REPUBLIC STEEL CORPORATION
General Offices: Cleveland, Ohio

COTTON
SERVING THE
Textile Industries

Vol. 105 January, 1941 No. 1

Is This "Unity in Defense"?

THE DAILY PRESS recently carried an account of an electrician testifying before a Congressional committee to the effect that a labor union was demanding a membership fee of $300 before he could go to work on a national defense project near Washington. According to this dispatch some of the Congressmen and certain other eminent citizens of the Capital declared that there must be some racketeering going on somewhere if national defense projects were being held up while jobless electricians with $300 in cash could be found to work on these jobs. Some of the testimony taken was to the effect that this $300 initiation fee had been in force for a long time in the electrician's union and had been adopted as a "stabilization" measure. That is, it stabilized the number of electricians who were available on union jobs and enabled them to charge whatever they thought was a good idea to ask for their work. Owing to the shortage of unemployed electricians with $300, the ones who belonged to the select circle were getting $2 an hour for their services in Washington, and this was for a 30-hour week and time and a half for overtime and double time for Sundays or holidays.

Apparently, it is impossible to build a cantonment to house our newly drafted troops except with labor union members, and if the distinguished Congressmen who were investigating this affair are of the opinion that racketeering is going on, we would be very glad to supplement their findings with some of our own gathered from all over the Eastern United States. In fact COTTON has from time to time for several years spoken about the growing power of rackets in labor unions in the United States, and it now seems that these are reaching their full flower and the very acme of their perfection in the National Defense Program.

Not all of the unions demand a $300 initiation fee, but in some places the thing is done on the Woolworth or Sears Roebuck principle of doing a big business at lower prices, and at some of these army camps the fee is said to be as low as $40, while the average for all of the camps we have checked up will run around $75.

THE FIRST CONSTRUCTION on each camp seems to be the labor union toll gate, which apparently is erected with the full approval of the Federal Government and its authorized officials in charge of the supervision of construction. To pass this toll gate does not actually require, in most cases, the possession of the $300 demanded by the electrician's union or the bargain rates of $50 to $75, but only takes a reasonable down payment with notes for the balance. It is not clear why permission should be granted to any organization thus to levy tribute from the people who are going to work on these camps. If construction is begun on a project of this sort and the people who are working on it want to organize a union and voluntarily agree to kick in $75 each, then certainly nobody could find fault with their doing so, but according to all of the information we have been able to collect, there is no alternative. If you want to work you have to join the union, and if you want to join the union you have to lay down cash on the barrel head before you can go to work.

While this seems to be a generally accepted practice in vogue in all of the army defense construction projects, it would hardly seem that the Congressional committee had exaggerated in referring to this practice as racketeering. If it isn't racketeering, then we need a fresh definition of that term.

Also, there are some other phases of this operation that would seem to prove the charge that rackets are being promoted at all of these camp projects. It has been claimed with monotonous regularity by workmen who have been engaged on these camps that all anybody needs to get a job is the down payment for the initiation fee. It is not necessary to know how to be a carpenter to join the carpenter's union, or to be a painter to join the painter's union. It is only necessary to want to work and to be willing to join in order to be permitted to work, and of course the minor item of $25 in cash in order to join. It further appears from the testimony of these men who have worked on such jobs that after they have got their initiation fees paid up, it is suddenly discovered that they are not really carpenters or painters, but are just phonies who imposed on the union officials and improperly obtained work at crafts about which they knew absolutely nothing, and consequently firing is just what they deserve. So far, no workman has been found who was given his $75 fee back as a result of this error. Presumably, this fee is kept as a punitive measure to discourage fleecing the Government. Further testimony discloses the fact however that a man who has thus been kicked out of the carpenter's union, or painter's union, is not barred from joining as many more unions as he is willing to help out with $75.

There was front page article in the *Atlanta Journal* recently containing a letter from one of these dis-

illusioned patriots who had been through the mill. We quote his own description of the situation at one of these defense projects, because he has explained graphically just what happens, and we do not think we could improve on his description:

"The union demands $40 to join, $10 down and $2 per working day for 15 days to make the $40, and anybody can join. All you have to say is that you are a carpenter. You work 15 days and the boss lays you off, a new man comes in your place. He has paid his $10 down and will pay $2 per day till his 15 days are up, then he gets laid off. A continual stream is coming and going all the time.

"A union carpenter with a card can't get recognition. He is told that everything is filled up."

Some of these unions are not as indifferent to the needs of a union carpenter as this gentleman describes. If a union carpenter with a card turns up he is readily permitted to go to work, upon the payment of a transfer fee which is only a trifling $40 or $75 as the needs of the occasion require.

CONSIDERABLE COMPLAINT has been voiced by the managements of a number of textile mills all over the United States reporting the loss of employees who have been tempted to these cantonment projects by the offer of high wages to work at trades about which they know nothing. One grievous complaint was turned in by the manager of a cotton mill who remarked with some bitterness that his plant was almost entirely on Government orders at prices which the Government had set, and at which prices he was able to pay his help a certain wage and just about break even on his costs, and yet at the same time some of his employees had gone to Ft. McClellan and by the mere formality of paying $25 to a labor union, they were certified for work at crafts which none of them had ever practiced and about which they were entirely ignorant, and were paid wages from four to six times the wages the mill was able to pay at the prices the Government was willing to offer for its cloth. This mill manager thought that it was unfair and unreasonable to let a good spinner or good weaver who never did a lick of work in his life as a carpenter or painter be paid four to six times as much as an alleged carpenter or painter on a Government job, as he could make at his trade, simply that somebody could collect $75 from him in dues.

This mill manager further stated that after he had lost some of his help in this manner these people began coming back and wanting their old jobs. They confirmed the claim of the carpenter previously quoted that your job only lasted as long as it took to pay up your initiation fee, provided of course there were other applicants for work. With common laborers making $100 to $125 a week on these camp jobs, it seems that there is never any shortage of applicants, and of course there is always the possibility of some clever lad growing a moustache or otherwise disguising himself and getting back in by joining up under another name.

IF THESE Congressmen who think this is a racket would take a little time off while Congress is not busy and run around the country checking up on what is going on at these camps, they would probably be surprised. Some of these boys seem to have invented some highly modern improvements in the art of picking up loose change, and workmen who have left Ft. McClellan have claimed that they had to pay $2 a day shakedown to business agents of the union in order to hold their jobs, while at Ft. Benning the claim was made that this shakedown was more fairly assessed on the basis of 10 per cent of the wages instead of the unfair arrangement of $2 a day flat rate.

Just who collected the $2 a day or the 10 per cent of the wages was not perfectly clear, and of course there was no way of telling whether this money ever got into the union treasury or was considered a private perquisite of the business agent.

MANY PEOPLE wonder how it can be possible that such a motley aggregation of reliefers, common laborers and semi-skilled workers can be paid such astronomical wages for pretending to do work that they are not qualified to do. This comes about through a piece of legislation providing that on Government work prevailing wages in the community shall be paid. The joker is that the Government authorities do not actually attempt to find out what prevailing wages are, and "prevailing wages" is a phrase which simply means that these are whatever the local labor union says they are. Camps are being put up at Anniston, Selma, Hattiesburg and other medium-sized southern cities where true prevailing wages for the class of labor employed on these camps will be from one-fourth to one-eighth what the Government is paying. In most small towns or medium-sized cities, labor unions are either non-existent or so negligible in influence that they are unable to impose fancy wages on people who simply can't afford to pay them. In some instances where camps are being constructed there has apparently been no local labor union whatever, but immediately some outside locals have moved in and established one and fixed a union scale, which is nothing but a guess at how much they can gouge out of the Federal Treasury for workmen who can't earn such wages and don't deserve them, but can afford to pay fat initiation fees and juicy tribute out of their inflated pay. If real prevailing wages were paid on these projects, the payroll would probably be less than one-fourth what it actually is.

The shameful way in which these defense jobs have been racketized is naturally having a demoralizing influence all through industry. A tractor salesman was recently complaining that his firm had opened up an apprentice school for training mechanics and had recently lost a large group of graduates to an aircraft company by promise of more money than the tractor company was willing to pay. After leaving the tractor company, where they had obtained the free training, these freshly-fledged mechanics proceeded to go on strike at the aircraft company for a further increase in pay.

Several cotton mill managers have told about difficulties with some of their employees who had no intention of giving up their jobs, but felt that if alleged carpenters and painters were making $100 to $150 a week on these defense projects, the management ought to boost their pay just on general principles.

(*Continued on page* 70.)

Reed Marks

The author of this article comments on the causes of reed marks and offers some very helpful suggestions as to how they may be corrected

By James A. Ward

ARKWRIGHT invented the power loom in 1785, and ever since the manufacturing fault generally termed "reed marks" keeps coming to the surface to plague the manufacturer. No one would be foolish enough to contend that the reed *doesn't* make marks; of course it will if the dents are not straight, uniform, and parallel. But to blame the reed for being the cause of what is termed "reed marks" in the woven fabric, is misplacing the blame.

Most any kind of reed will be satisfactory for weaving fabrics if it is not damaged in any way.

We are particularly interested in the problem of reedy cloth and how it may be remedied with ordinary equipment found in the average plant. It is assumed that the order is already in the looms and must be delivered on schedule—so the cloth construction cannot be altered; the warp has already been sized so special sizing materials cannot be used; softer filling would make no difference (in heavy goods such as ducks, a softer filling is easier beaten-up); and we assume there is not time to wait for reeds with special air space. The difficulty must be met at once and the problem solved with the ordinary equipment already at the plant.

A soft warp, high humidity, and a reed with special air space may help some, but it is doubtful if combined these factors would account for even one per cent of the trouble being alleviated. We can therefore afford to eliminate these because their total contribution is just a trifle.

Now, since 99 per cent of the reedy cloth is entirely due to the loom, the sensible and practical thing to do is to select the worst loom of a number running on this particular order and get busy:

1. Let us take a look at the lease rods. (a) For position. The general practice is to keep these rods close behind the harness for two reasons—the convenience of the weaver, and because they serve to keep the warp of the top shed tight while the shuttle is passing through. It will make a surprising difference to the reed marks if these rods are kept well back from the harness.

(b) Examine the lease rods for size. Sometimes thick heavy rods are used as these are considered better for opening the warp sheet. On the other hand they may have been used for no particular purpose beyond keeping the warp straight. In fact, these rods are considered of little importance and receive little or no attention and are seldom changed. It will be discovered upon trial that even one thick rod will cause reed marks.

(c) The lease itself should also be considered. In practice the warp ends from harness one and three are underneath the back rod and those from the second and fourth under the front rod. Sometimes better results are obtained by placing the warp ends from the first and second harness under the back rod and those from the third and fourth harness under the front. If neither of these two methods gives the desired result, there is a third, and that is to remove the lease rods altogether and substitute a pair of clip rods, tied together above and below the warp. These variations as applied to the lease rods, just because they vary from a general or standard practice, cannot be looked upon as guess-work or experiments. To the contrary, each is a standard for a special need, borrowed to help solve our present problem. No one, however theoretical or practical, can say which method or standard will produce the desired result in a given fabric until it has been tried. And few would say it shouldn't be tried, their own convictions notwithstanding. Such a refusal would hardly be in the interests of their employers.

The Whiproll and the Temples

2. If examination of the whiproll shows it to be on the same horizontal line with the fell of the cloth, that in itself is sufficient to make reed marks. This position in the majority of cases will be found to produce a raw open cloth of a quality every finisher dreads. It cannot possibly be considered as *the* standard, but only one of several, each serving a purpose, yet none measured by inches on the loom gable, nor from their nearness to a horizontal line with the cloth fell.

In the present instance we are concerned only with reedy cloth for which the whiproll should be raised until the warp groups that are causing the reed marks are broken up and scattered. When this is accomplished the correct standard for reedy cloth has been reached, and our objective has been realized. In Russia it has been and

still is the custom to work with an unusually high whiproll because of the very excellent results obtained with eliminating reed marks. However, when doing this, it is necessary to use a better and more expensive warp yarn. Moreover, the looms themselves are built to standard, yet experienced loom men know that looms possess individuality, and weavers know that there are "good looms" and "bad looms". Therefore, since looms that are built to standard don't operate alike, it can hardly be expected that looms set to a given standard will all give the same results—they never have.

"It is one thing to fix a loom and quite another thing to tune it. Time and patience are required to give to the loom that fineness of touch which characterizes the master. The man that can fix a loom may not be able to tune it, but the man that can tune the loom can also fix it. Loom fixing is a job; loom tuning is an art, and one that is wide open for development. One wonders if our textile schools cannot do something to meet a need like this."—James A. Ward.

Should the cam vibrating the whiproll not be large enough to take care of the increased amount of slack, due to the higher whiproll, a spring attached directly to the whiproll will serve the purpose of taking up the slack—in fact the author prefers the spring because it possesses greater adjustment.

3. If the side temples are carried on an adjustable rod, as some are, this should be elevated in order to obtain full advantage of the higher whiproll. If this is not possible a piece of board at least half an inch thick could be laid along the breastbeam underneath the cloth.

Shedding Cams and Timing the Harness

4. The little time necessary to make a check-up of the size and shape of the shedding cam would be well spent. It controls the possibilities of just how tightly or how loosely the harness can be worked. This is important where reedy cloth is concerned, for, if the harness is hung tightly good results cannot be expected. The harness should be so that all four when level can be shaken with a light touch of the fingers. The rigid condition of course could be due to faulty adjustment, as well as to a poorly designed shedding cam. This cam should have a lifting distance of at least 3 5/16 inches in order to permit the harness to hang loosely. In addition, when the harness reaches its lowest point it should be kept there for at least one-sixth of a revolution of the cam shaft. A cam having a shorter dwell than this will cause trouble with reedy cloth. No expense is required to alter a faulty cam as a machinist can easily and quickly make the necessary alterations to the pattern and cast a new one.

5. Very frequently the cause of reedy cloth is due to the time of opening and closing the warp sheds. This is one part of the loom that is subject to continual change. A change is necessary for the weaving of such different goods as heavy and light fabrics, reedy cloth, edges breaking out, looped filling, etc., etc.

The closer the reed is to the fell of the cloth when all four harness are level, the earlier the sheds open and close. The farther the reed is from the fell of the cloth with all four harness level the later the opening and closing of the harness becomes. For reedy cloth the timing of the sheds must be early. If after altering to an early timing the warp ends begin to break in the selvages, it is an indication that the limit has been reached.

6. If the harness are operated by the method common to plain fabrics—with a cam direct from the cam shaft, and hung from a reciprocating roller, this roller should be at center when all four harness are level and should rock an equal distance each way. The harness should be hung close to the lay so that when the lay is at back center the reed cap will lightly touch the front harness. This position will be found to be the one offering the greatest advantages under all circumstances. Except in special cases it is advisable to draw a plain fabric in four harness instead of two, as with only two harness it is much more difficult to scatter the warp. Good results are rarely obtained in plain fabrics by working the harness singly from a head motion.

7. The steel heddle eyes should not bind in any way on the harness frame, but be so free that the warp tension will draw them to their correct position.

8. Sometimes a nail is driven into the lay at the end of the reed to prevent the reed from working from side to side. The harness alone should be allowed to decide the correct position for the reed, and if the side temples are correctly adjusted they will keep the reed in correct position. For this reason, the reed should be perfectly free when the reed cap is tightened and should yield to a touch of the fingers.

9. In the power loom, to our own loss, we have forsaken many of the first principles of good weaving, outstanding among which is the small warp shed. The hand loom did not produce goods of such excellent quality just because it was a hand loom as compared with a power loom. To the contrary, the conservation of human energy was a prime factor in minimizing and controlling operations, thus the power loom. On the hand loom the warp shed was never opened more than was absolutely necessary. In the power loom, with its prevailing surplus power, this matter is rarely considered in the light of power consumption; very little as regards its increased and unnecessary strain upon loom parts and particularly upon the warp; and almost no consideration as to the resulting quality of the cloth. The hand loom weaver could not afford to operate in a careless fashion because it would have been a waste of time and energy and a detriment to the quality of the fabric. The hand loom weaver was wedded by circumstances to the small shed, with results that are well known.

Where reedy cloth is discovered in a loom there will invariably be found a large, wide open shed. Just how large the warp shed should be may be found by pushing the lay to back center, at which point the shed is fully open. If the shuttle is now pushed along the shuttle race into the open shed, it should lightly touch the sheet of warp forming the top of the open shed. While the general practice is to adjust the harness so that the sheet of warp forming each shed will have the same relationship to the shuttle race, yet, in the case of reedy cloth better results are frequently obtained by keeping the back sheet of warp up from the shuttle race and bringing the front sheet farther down.

Warp Wind vs. Filling Wind

DOES warp wind on the warp bobbin at the spinning frame produce a better breaking strength than the use of filling wind? If so, what increase can logically be expected? These questions were posed to COTTON recently by a mill which had just changed its 21.50s warp yarn from filling wind to warp wind at the spinning, and had found that with warp wind, the yarn breaks approximately 9 pounds higher than the same number of yarn made on filling wind.

There were no changes in roving organization front roll speed, twist gear, cotton or humidity. Breaking strength tests were skein breaks, all tests were made under A.S.T.M. conditions, breaks on filling wind were made at the top of the bobbin and on warp wind from an almost empty bobbin.

The only change made in going to warp wind was that a No. 1½ traveler, flange 1, circle, ⅞, was used in place of a No. 2½, flange 1, circle ⅞ traveler on filling wind.

The results reported were so unusual that COTTON submitted this report to 7 mills that had at one time or another changed from filling wind to warp wind on warp, and asked for their comments. The query produced a number of interesting reports and conclusions, which are appended hereto, in part:

MILL NO. 1: "We found that on 14s yarn a 3.75 per cent better break was obtained with the warp wind over the filling wind. On 8s yarn, a 1.60 per cent better break was obtained with warp wind over filling wind. The summary sheet also shows that 7.9 per cent more pounds per doff could be obtained with filling wind over warp wind yarn with a 14s yarn, and a 13.0 per cent increase in poundage by using filling wind over warp wind on 8s yarn.

"We also found that considerably more waste was made due to tangled yarn from the warp wind, which was not encountered in the filling wind. Excessive end breakage showed a slightly higher cost in warp wind over filling wind."

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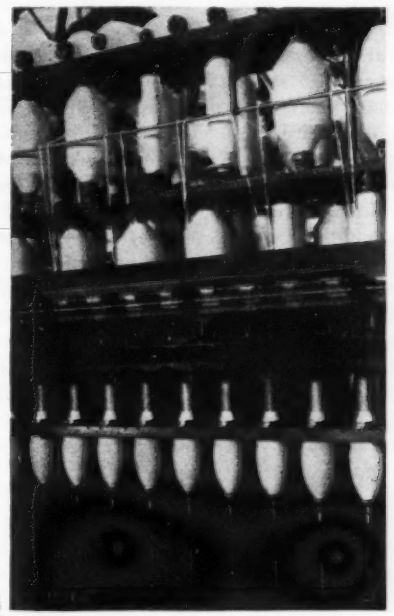
MILL NO. 2: "I assume from your friend's statement that no changes were made in the carding and spinning, other than the change from filling wind to warp wind. If this is the case, the only reason that I could think of that would give an increase in breaking strength would be a change-over in the type and weight of traveler used. At one time, we ran a few frames on filling wind and our experience was that the ends ran better on filling wind and the breaking strength was just slightly lower. We were never able to get as much yarn on the filling wind bobbins as the warp wind, and invariably the filling wind bobbins were soft. It is possible that your friend is running a lighter weight traveler on the filling wind than the warp wind, and we have an idea that if the yarn is wound on the bobbins very firm that it will break stronger than the same yarn with the same amount of twist wound on a soft bobbin. We are inclined to think this difference in breaking strength is brought about by the difference in density of the two packages."



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MILL NO. 3: "The weak yarn in a warp build is on the start-up of the frame (empty bobbin), and the strongest yarn is when the bobbin is about three-quarters full. Filling wind allows thin places to spin into the yarn. Warp wind will break the ends down on the spinning frame on these thin places in the yarn that would be allowed to run on filling build, which would mean better running spinning on filling build, but oh, the weaving.

"This would be reversed on warp wind, that is, more ends down per thousand on spinning, but you would have better running weaving. Thus you can readily see why so many spinners like filling wind.

"Our experience has been an increased break on warp wind with the bobbin three-quarters full, and the break was about equal to the filling build at the start of the bobbin on the frames. Tell your friend we have had practically the same experience as he had, but it did not increase our strength nine pounds."

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MILL NO. 4: "I find in making yarn, filling wind, that it has always been our experience that beginning with the first yarn made at the bottom of the package that we have the heaviest yarn and the greatest breaking strength, of course taking into consideration that the size package, ring size, etc., are within reason. Should the package be extremely large, naturally the wind resistance will increase the friction of the traveler on the ring and stretch and weaken the yarn.

"We have found that on warp wind package that the weakest and lightest yarn is at the beginning of the package due to strain caused by friction of the traveler on the ring but the majority of the yarn on warp wind bobbin averages higher in breaking strength throughout the entire bobbin than on filling wind.

"Our records also show from a considerable amount of tests made that in sizing a full bobbin of yarn that the first size on the warp wind, which is of course the full bobbin, gives a higher breaking strength than the first size on filling wind but as stated above, the entire bobbin will average higher in breaking strength on warp wind than on filling wind. This can be attributed to the fact that on warp wind after the bobbin is about one-quarter full that the balloon of the yarn and friction on the ring and traveler naturally decreases throughout the running of the bobbin, whereas on filling wind each time the traverse comes to the top and puts yarn on the naked

bobbin that it has a tendency to weaken the yarn slightly at every traverse change.

"There are of course many other factors that will cause an increase in breaking strength on yarns that this man did not mention as for instance in our particular case when we changed from filling wind to warp wind on account of installing automatic spoolers we began to make quite a few experiments as the yarn did not run as good as we thought it would on automatic spoolers and at this particular time we purchased a roving tester and found that we could easily take out from two to four teeth in the twist gear on all our rovings, thereby making a more uniform yarn and getting a slightly better breaking strength due to uniformity."

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MILL NO. 5: "The question asked in your letter has aroused our curiosity since we at one time changed from filling build on our warp to warp build and noticed no increase in breaking strength. Not being satisfied with our past experience, however, we have made some additional checks since receiving your letter.

"For our comparison we changed one frame back to filling wind. For our test we used 12 bobbins of each type of wind and broke the yarn on the entire bobbin, that is, starting with the full bobbin and breaking each skein until the bobbin became empty. We have charted four bobbins on each type of build and these charts show that there is a very slight trend toward a better break factor as the bobbin becomes empty. This was slightly more noticeable on the filling build than on the warp build. On comparing the totals, the average on all tests on the warp build was about 1 per cent higher than on the filling build. This might be accounted for by the fact that the yarn count on the warp build was one number heavier than on the filling build. (This mill submitted their detailed test figures, which are summarized later in this report.)

"The results of our experiment on this recent test seem to indicate that there is no difference in breaking strength and certainly nothing that would cause such an increase as found by the one who sent in his experience to you. This recent test does bring up this question, however: Why should there be one full count difference between the two types of builds? If we were to eliminate the break factors and compare only the breaking strength, we do notice that there is two pounds better break in favor of the warp build.

"We are planning to make an additional check to try to determine this last question."

MILL NO. 6: "The hardest pull of the traveler on yarn being spun occurs just after doffing or at the beginning of the package. As the bobbin is filled with yarn, this pull lessens. Because of greater ballooning of the yarn when warp wound is run instead of filling, a slightly heavier traveler is necessary. In the case of a warp wound bobbin, the first layer put on the bobbin is put on with the greatest tension or traveler pull, while the last layer just before doffing is put on under the least tension or traveler pull.

"Also on a filling wound bobbin, the yarn wrapped next to the wood would have the greatest tension and the yarn wrapped at the greatest diameter of the filling wound bobbin would have the least tension or traveler pull. But disregarding the fact that a slightly heavier traveler should be run with a warp wind than a filling wind, we do not believe a test of all the yarn in a full bobbin from beginning to end for breaking strength would show very much difference on a warp wind than on a filling wind. To get a direct comparison between the breaking strength of yarn spun on a warp wound bobbin and a filling wound bobbin breaks should be made half way between the least and the greatest diameter of the warp wound bobbin, and at a point half way between the bottom and the top of the filling wound bobbin. At these two points a direct comparison could be secured and should show any difference to be found in the breaking strength of yarn spun on the two systems."

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MILL NO. 7: "We cut out all ends from a spinning frame except 24. These we ran on both warp and filling build on three different numbers, 18s, 22s, and 25s. Each spindle was numbered, so that a test on warp was followed by a test on filling from the same spindle.

"Also, in the beginning, we saw that there was sufficient roving on the bobbins, so that each spindle spun its warp and its filling from the same roving bobbin.

"Without trying to analyze or plot curves to indicate tendencies, we are submitting our figures to you, test having been made by a man who is thoroughly familiar with tests of this sort, and who made them under A.S.T.M. conditions.

"Not being satisfied with the test after it was finished, and noting some differences in strength when the yarn was being wound from various positions on the bobbins, that is, with bobbins full, ½ full, ¼ full and nearly empty, it was decided to take the yarn and test for the purpose of finding out if there was any regular variation in strength when the yarn was being drawn from the various conditions or sizes of the bobbins. This test was likewise conducted on both warp and filling. You will notice on the test sheets that our man did not use all of the bobbins in the last test, but you will note that he did number the bobbins that were used, these numbers representing the same bobbins that were spun in the original test, and carrying the corresponding numbers.

"In conducting the test there was no change in draft, twist, or traveler, the only change being made was from warp to filling build." [See table below.]

The foregoing comments were submitted to the mill that had asked the original question, and the manager there has sent to us the following further interpretations and discussion:

"The general opinion of the several mills is that the average breaking strength of yarn spun on warp wind is slightly higher than filling wind based on skein tests taken successively from the full to empty bobbin on both types of wind with all conditions being as near alike as possible.

"The tests sent in by Mill No. 5 were very complete and showed the average breaking strength of about thirty skein breaks taken throughout the entire bobbin on twelve bobbins each spun on the same spindles under similar conditions on warp and filling wind as follows:

	Warp Wind		
29.66 yarn	58.1 lbs.	1723	Break Factor
	Filling Wind		
30.50 yarn	56.1 lbs.	1711	Break Factor

NOTE: The summary of the results of the tests of Mill No. 7 on 18s, 22s and 25s spun on same spindles on warp and filling wind is as follows:

Warp Wind			Filling Wind		
Average Count	Average Break	Break Factor	Average Count	Average Break	Break Factor
17.08	111.33	1901	16.76	113.63	1904
22.43	76.46	1715	22.59	77.25	1745
24.98	67.96	1698	25.14	65.63	1650

The results of the tests made on four bobbins to determine the difference in breaking strength on the yarn spun at the full and nearly empty part of the bobbins were as follows:

	Warp Wind			Filling Wind		
18s yarn	Average Count	Average Break	Break Factor	Average Count	Average Break	Break Factor
Full Bobbin	17.51	112¼	1965	17.29	112¾	1949
Empty Bobbin	17.79	116¾	2076	17.65	116½	2056
25s yarn						
Full Bobbin	25.08	69¼	1737	25.12	65¾	1654
Empty Bobbin	25.25	67¼	1698	25.48	71¾	1828

"The foregoing figures represent the average of approximately 360 skein breaks each on warp and filling wind and show an increase of seven-tenths of one per cent in breaking strength in favor of warp wind.

"On this same test with breaks of the yarn at all positions on the bobbin available showed a good comparison of the breaking strength of the yarn spun at the full and empty bobbin on both warp and filling wind. The average break of twelve bobbins at the full and empty bobbin is as follows:

Warp Wind	Count	Break	Factor
Full Bobbin	29.87	57.8	1726
Empty Bobbin	29.65	59.6	1765

Filling Wind	Count	Break	Factor
Full Bobbin	30.43	54.9	1670
Empty Bobbin	30.61	56.2	1734

"These figures confirm the trend in break shown on the charts of the four bobbins on each type of wind mentioned in the letter. On the warp wind the yarn spun on the empty bobbin broke about 2 per cent higher than at the full bobbin and on the filling wind the yarn spun at the empty bobbin broke 4 per cent higher.

"Referring to the suggestion of Mill No. 6 that a direct comparison of breaking strength should be made at the half full bobbin to show up the difference in yarn spun on warp and filling wind. We have not made recent tests on filling wind on half full bobbins. However, the breaks at this point on the bobbin were available on the tests sent in by Mill No. 5 on 30s yarn and the figures shown below are the average of twelve bobbins on each type of wind on yarn spun at the half full bobbin.

	Warp Wind	
29.47 yarn	58.5 lbs.	1722 Break Factor
	Filling Wind	
30.37 yarn	55.9 lbs.	1697 Break Factor

"This test shows the yarn spun on warp wind breaks slightly over one per cent higher than filling wind or practically the same result as on the test previously mentioned on the yarn tested throughout the bobbin.

"The tests which were sent in by Mill No. 7, a summary of which is shown in a last paragraph of the letter from this mill, we presume, were made on full bobbins as further tests were made on the yarn at different positions on the full to nearly empty bobbin on some of the same bobbins. The average results of these tests show very little difference in breaking strength on warp and filling wind on 18s and 22s yarn. On 25s yarn the warp wind break was about 3 per cent higher than filling wind.

"During the past two years we have made numerous tests on filling wind with the yarn at different positions on the bobbin. The average of all tests on 22s yarn showed the breaking strength of the yarn spun at the bottom of the bobbin was 9 per cent higher. The explanation of the increased break at the bottom of the bobbin, we believe, is the fact that the tension of the traveler on the yarn is the lightest at the start of the bobbin and gradually increases as the bobbin is filled with yarn.

"It is our custom to make skein breaking strength tests on yarn spun at the position on the bobbin that shows the lowest break. When part of the frames were changed over to warp wind we assumed without making any tests the yarn spun on the empty bobbin where the traveler tension is the greatest would be the weakest yarn. In comparing these breaks on yarn on warp wind at nearly the empty bobbin with breaks made on filling wind at the full bobbin we found an increase of about 9 pounds on the warp wind. We are making daily tests on yarn spun on warp wind at the nearly empty, one-quarter, one-half, three-quarters, and full bobbin and the results thus far show the yarn spun at the nearly empty bobbin is from 3 per cent to 5 per cent stronger than the yarn spun at the full bobbin. If our comparison of breaks on warp and filling wind was made on yarn spun at the full bobbin which is apparently the point of the bobbin where the weakest yarn is spun on both types of wind the results would show about a 4 per cent higher break on yarn spun on warp wind.

"We have several theories explaining why the yarn spun on warp wind is stronger at the start of the doff but have not made sufficient tests to definitely prove out our ideas as yet.

"We have made a few tests on twist and found there is a greater amount of twist in the yarn spun on the empty bobbin. It is evident that the greater amount of tension put on the yarn at the empty bobbin has a tendency to put more twist and possibly a more uniform twist in the yarn which would have an influence on the breaking strength.

"Another theory that has been given us is that the heavier traveler, which it is customary to use on warp wind in order to reduce the ballooning at the full bobbin diameter, puts an excessive amount of tension on the yarn at the start of the bobbin, which may break down so many of the weak places that the yarn actually wound on the bobbin is stronger on that account. This theory has proven out in our case as far as the increase in breaking strength on the nearly empty bobbins but we used a lighter traveler in going to warp wind instead of a heavier traveler.

"The test we have made on end breakage shows an increase of 17 per cent on yarn spun on warp wind compared to filling wind also that 20 per cent of the breaks occur the first thirty minutes at the beginning of the doff which runs six hours and five minutes. In other words, there is a greater percentage of end breaks at the start of the doff."

AATCC Serves on Ultimate Consumer Goods Committee

The American Association of Textile Chemists and Colorists serves as a member of the advisory committee on Ultimate Consumer Goods of the American Standards Association, with Dr. Louis A. Olney as official representative and Bertil A. Ryberg as alternate. The research committee of AATCC is preparing a list of standards and test methods developed by the various subcommittees for acceptance as American standards by the ASA, under AATCC sponsorship.

The committee on fastness to light of AATCC, with William D. Appel of the National Bureau of Standards as chairman, has cooperated with the National Association of Finishers of Textile Fabrics technical committee on a draft of tests for fastness to light of all textiles and classifications based upon these tests, for use in labeling textiles for the benefit of consumers. This committee is also participating in the recommended revision of woven dress fabrics—testing and reporting, Commercial Standard CS59-39.

National Cotton Week to Start May 16, 1941

At the meeting of the Cotton Consumption Council in New Orleans, the week-end of December 13, it was decided that the next National Cotton Week will begin May 16, 1941, and extend through May 24, which again gives two full week-ends during the promotion week. The announcement was made that many of the larger retail stores throughout the country are in favor of continuing to support the Week because it is good business. A 14-point program was also adopted for the promotion of cotton the entire year around.

Dr. Claudius T. Murchison, president of the Cotton-Textile Institute, stated that it was reasonable to assume that when the war is over the exports of cotton will again rise to two or three million bales, and that scientific research should increase use by 30 per cent. He also said that efforts will be made to extend the cotton stamp plan to principal cities of the country.

Manufacturing Novelty Yarns

By George B. Peeler

MANY mills are discarding their conventional spinning in favor of long draft equipment, with the conventional spinning finding its way to the junk heap or to secondhand machinery dealers. But there are some plants installing long draft equipment that are converting the old conventional spinning into novelty twisters, upon which such yarns as spun slub, twisted slub, nubs, gimp, ratine, seed, cover, spot, etc., can be made. It is the purpose of this article to describe some of the yarns made and some of the manufacturing procedure in making them.

In converting the conventional spinning frame into a novelty twister, it has been found that square-neck rolls will handle almost any yarn one wishes to make. It will be necessary to have on hand a large number of different size twist gears so that a wider range of novelty yarns can be made. After this, the type of yarn to be made will determine the other accessories needed. For some yarns a clutch gear, bicycle chain and sprockets are needed; other yarns will require extra thread guides, oil rings, creels for spools where continuous yarns are used, and other equipment. It might be said that if oil rings are not used, it will be good policy to grease the spinning ring at least once a day.

Any of the common textile fibers can be used for making the yarns mentioned in the first paragraph. Of course, it would not be practical to try to make a spun slub yarn from a fiber whose length is greater than the distance between the roll centers; so, we will assume that practical fiber lengths are to be used. Fibers such as silk, cotton, wool, cut rayon staple, and continuous filament rayons can be used for making the desired affect. The yarns are also made by other processes than those I shall describe.

Spiral Yarns

The spiral yarn is the easiest to make, being comprised of two yarns of different sizes. The smaller yarn is used for the core and the larger yarn gives the spiral effect. The ground or core yarn should have greater elasticity than the spiraling thread and the two should break simultaneously. A correct balance of twist will also help to cause a simultaneous breaking of both threads. The quality can be improved by obtaining the correct delivery of the two yarns.

A spiral yarn can be made with one line of rolls by using an "S" twist (left hand) yarn for the core and a "Z" twist (right hand) yarn for the spiraling thread. The two yarns should be twisted in the same direction as the core yarn, which will cause the core yarn to become shorter because of the twist being added. For this reason, the core yarn should have very little twist at the beginning or it will become weakened by excessive twist. The spiraling yarn will become longer as the twist is taken out—causing the larger yarn to spiral around the core yarn. When two lines of rolls are used, which, in the writer's opinion, give better results, the delivery and tension of the core and spiraling yarns can be regulated so that any one yard of finished yarn will show the same amount of surplus spiral thread. This can be accomplished by changing the draft gear of the frame.

If the spiraling is twist on twist of the base of core yarn and twist off twist for the spiraling yarn, the surplus amount of spiral yarn will be less than if the spiraling thread is also twist on twist. This is caused, as stated before, by twist take-up in the core yarn, the twist being taken out of the spiraling yarn. Since the spiraling yarn must spiral around the core thread, the amount of surplus delivery will be determined by the turns per inch necessary to obtain the effect desired. This can be determined by experience.

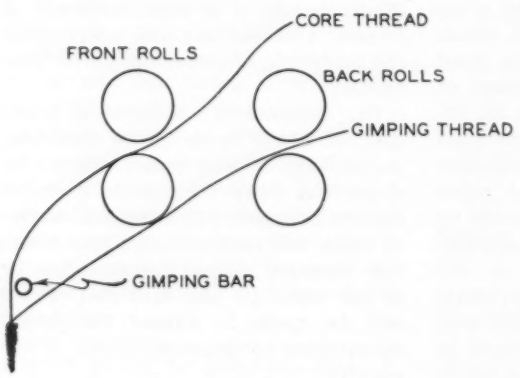


FIG. 1

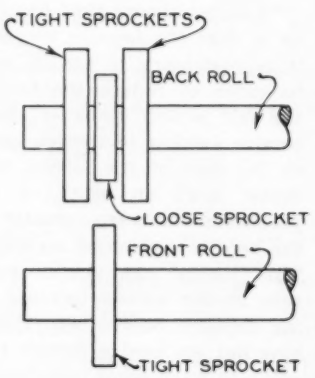


FIG. 2

Gimp Yarns

Gimp yarn is a development of the spiral thread. It is best made by using a two-ply core yarn or by using two single core yarns. The spiraling and ground thread are delivered from two separate sets of rolls as shown in Fig. 1. It will be seen from this (Fig. 1) that the gimping or spiraling thread meets the ground thread under a bar or, if a spinning frame is used, under the thread guide. A better gimp is obtained if the bar is placed close to the core thread. The farther the bar is away from

the core thread the more ragged and ruffled the gimp will be.

Slub Yarns

There are two basic kinds of slub yarn. One is the spun slub which is made on the spinning frame from ordinary roving. The other is the plied slub which is made by plying two yarns so as to obtain a slub effect by having one yarn wrapped on the other to form a slub.

The spun slub is made on the spinning frame from roving. The spinning frame is equipped with a special mechanism which will cause the back rolls to deliver an excess amount of roving at the intervals the slubs in the yarn are desired. There are numerous types of these mechanisms in use today—all giving good results. One mechanism consists of a clutch gear (used in place of the crown gear on the spinning frame) and bicycle chain and sprockets. A tight sprocket is fastened to the foot end of the front roll. One loose and two tight sprockets are fastened to the foot end of the back roll as shown at Fig. 2. Steel pins are inserted in the bicycle chain at the intervals desired for the slub in the yarn, and the chain is arranged so it will be in contact with both the front and back roll sprockets as shown in Fig. 3. The front roll, turning faster than the back, will cause the chain to turn faster than the back roll also. This excess speed is taken care of by the loose sprocket which is placed between the two tight sprockets on the back roll. When the pins in the chain come around and strike the teeth of the tight sprockets, it will cause the back roll to accelerate its speed. This acceleration feeds in an excess of roving, thus making a slub in the yarn.

The slubs can be varied to suit the individual by regulating the amount of acceleration given the back roll, which is controlled by the number of pins put into the chain at any one place. The interval between the slub can be regulated by the space between the pins in the chain. Best results will be obtained by using a single roving in the creel as this will prevent break-backs and singling.

The plied slub is made in much

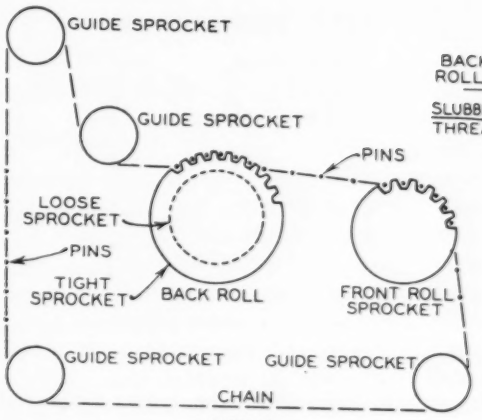


FIG. 3

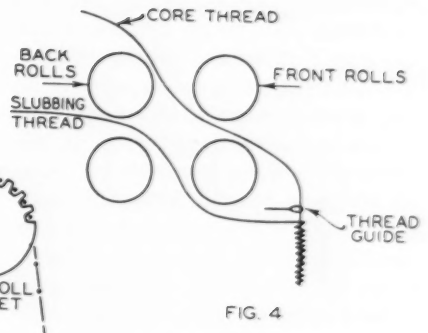


FIG. 4

the same way as the spun slub. The spinning frame accessories are the same but two continuous yarns are used instead of roving. One of these yarns is a core yarn and the other is a slubbing yarn. Good results have been obtained by using an oil ring and steel travelers. Some mills prefer bronze travelers.

To make the plied slub yarn, the clutch gear is used in place of the crown gear on the spinning frame. The sprockets are placed on the foot end of the front and back rolls, and the chain is then pegged according to the type slub that is to be made. The slub is formed by accelerating the speed of the back roll, causing it to deliver an excess of slubbing yarn, which wraps around the core yarn. The delivery of the back roll will have to be the same as the delivery for the front until the pin in the chain strikes the tight sprockets on the back roll, causing the acceleration. One may wonder how this acceleration could come about if both rolls have the same rate of delivery. The excess speed for the back roll is obtained by using a large tight sprocket on the front roll and small tight sprockets on the back roll. When this method is used, the slubbing thread is delivered from the back roll and the core thread from the front roll. The method of threading the rolls is shown in Fig. 4. This will make a long ragged slub in the yarn.

Another method of threading is to feed the core yarn from the back roll and the slubbing yarn from the front roll. When this method of threading is used, seed, nub snarl, lace, spot, loop, and numerous other yarns can be made. At this point, it will be wise to state that the number of processes required to make these yarns will be governed by the type of yarn being made. When the core yarn is delivered from the back roll, it will be necessary for the back roll to have an intermittent delivery. This is accomplished by cutting it loose at the head end of the frame and driving it entirely by the chain and pins from the foot end of the front roll. The pins are left out where the slub or nub is to be formed, thus causing the core delivery to be stopped until the front roll has delivered sufficient yarn to form the desired slub. A front guide for the core yarn is also needed when this method is used.

The method of threading and the guide are shown in Fig. 5. The size and length of the slub, seed, nub, or whatnot can be regulated by the length of time that the core delivery is stopped. It can also be regulated by having the thread guide on the spinning frame vibrate up and down or by taking the thread guide off and using a vibrating bar.

While we are on thread guides, it might be wise to add that if very much fancy yarn is to be made it will be best to replace the wire thread guides with ones of porcelain. If this is not done, the hard twist yarns used for making the fancy yarns will groove the wire guides and cause breakdowns. This is especially true if rayon is being used. It will also cause the filaments of the rayon yarn to be broken.

Spot yarns can be made by using

different colored yarns for the spotting. As many different colors can be used for the spots as is practical to have spotting rods on the frame; more than about four colors is impractical to run at one time. A spotting bar will be needed for each color to keep the spots separated. Other accessories for the frame will include the clutch gear, bicycle chain, sprockets and thread guides. The core yarn will be delivered from the back roll and the spotting threads from the front roll. The back roll has intermittent delivery so that the core thread can be stopped long enough for the spots to be formed. The method of threading these yarns is shown in Fig. 6.

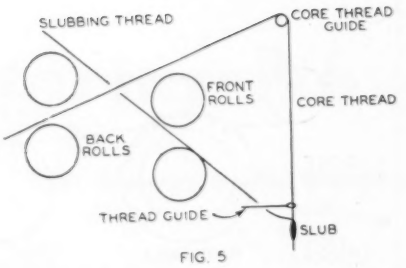


FIG. 5

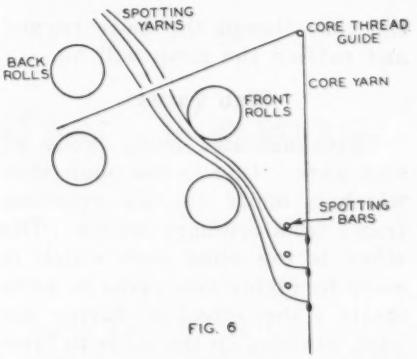


FIG. 6

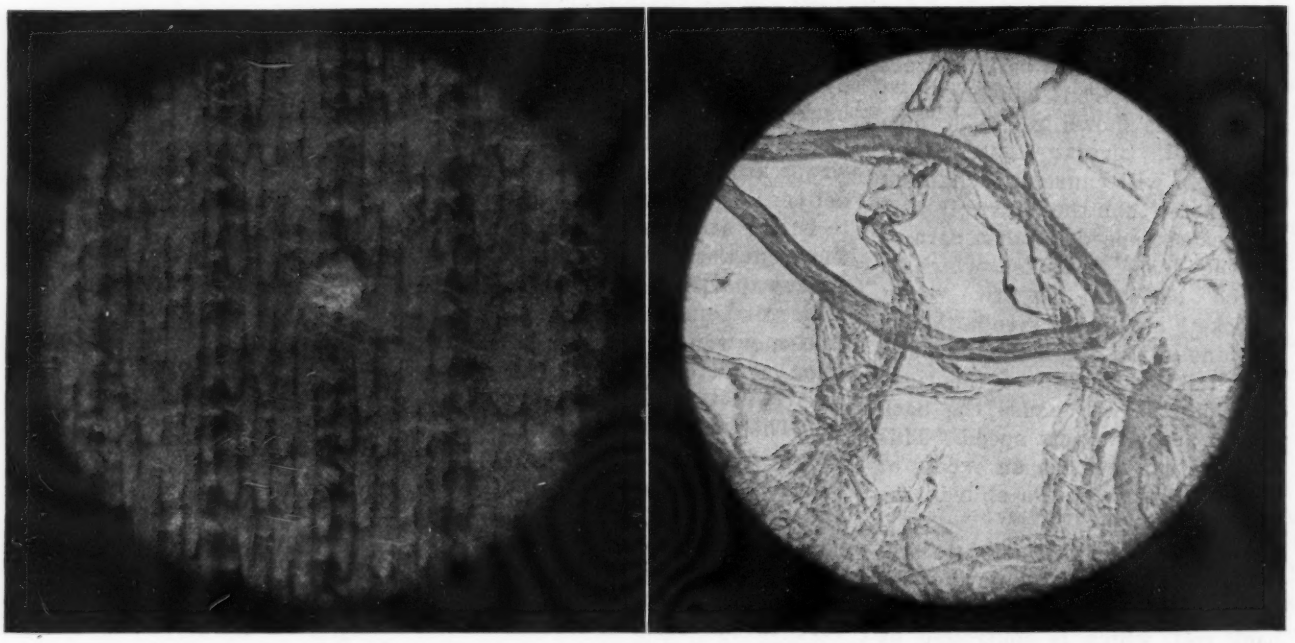
Cover Yarn

Single cover yarn can also be made with the equipment used for making the plied slub yarn. To make the cover yarn, the core yarn (or the yarn to be covered) should be delivered from the back roll—the covering yarn being delivered from the front roll. The back roll is stopped where the covering is desired while the front roll delivers the covering yarn. If a long cover is desired, a vibrating bar should be used. The length of the upward and downward movement and the length of time the core yarn delivery is stopped will determine the length of the yarn covered by the covering yarn.

In ending, it might be added that there will be numerous kinks which will have to be worked out on the frame. The more experience one has the easier these kinks and problems will be to solve. For the beginner, it means a lot of work and worry.

As one develops experience the greater variety of yarns can be made. Some yarns will require two or more operations before the desired effect is obtained. Don't try to make these yarns unless you have a lot of patience and plenty of time.

Cotton Waste Causes Specks in Dyed Goods



THE reproductions of photomicrographs above reveal the solution of a problem, and also demonstrate the usefulness of this form of investigation in the analysis and study of textile subjects difficult of interpretation otherwise.

A difficulty was encountered with specks in dyed goods. The photomicrograph at the left is of a dyed cotton dress fabric covered with tiny white specks. Under the microscope (50 diameters magnification) the specks were identified as cotton waste which did not absorb the dyestuff.

At the right, the waste fibers removed from the specks are shown magnified about 500 diameters.

These microphotographs are used through the courtesy of the Hatch Textile Research, Inc., 25 East 26th Street, New York City, who made the investigation.

The Sanforset Treatment for Viscose Process Rayon Fabrics

THE PURPOSE of this article is to present the main features of the new Sanforized-Shrunk Sanforset treatment for viscose process rayon fabrics.

Practically all textile people and most laymen are now familiar with the well-established Sanforizing process, which has been in use for many years. In fact, probably all have worn garments which have been made from Sanforized-Shrunk material. Therefore, it is generally known that the Sanforizing process of mechanical shrinkage is primarily for cotton and linen fabrics, although some rayon fabrics are Sanforized-Shrunk, particularly in the spun yarn class; but here it has been found that in most instances these spun rayon fabrics are very unstable. It is most difficult to predict what they will do during each wash, it is pointed out by Cluett, Peabody & Co., developers of the Sanforizing and the Sanforset treatment; they may shrink, stretch, or do either in different dimensions, and then all of the results may be reversed on a subsequent wash. Consequently, garments made from such fabrics easily lose their fit.

The company points out that there has been a need for a direct and inexpensive method of finishing to present rayon fabrics that will not shrink nor stretch out of fit, and that as the result of thought, research and effort on the problem, a unique chemical treatment known as "Sanforset" has been developed.

This treatment differs from the Sanforized-Shrunk method, where chemicals are not used, the shrinkage there being produced mechanically by compression in the presence of moisture and heat only. The Sanforset process is chemical, and not related to Sanforizing, in its procedure.

The new Sanforset chemical treatment is applicable primarily to the viscose type of rayon fibers or to those generally known as regenerated cellulose. However, it has been found that where the major portion of a fabric consists of viscose type rayon fibers, licensed finishers can also apply the Sanforset treatment if it should carry a minor portion of other fiber blends, such as cotton, acetate, linen or wool, provided these mixes are not over 15 or 20 per cent.

This new method of chemically treating viscose fabrics, the company explains, causes a form of reaction on the fibers, and after the reaction has taken place the chemicals are completely eliminated from the fibers and fabrics so that the stabilization is permanent and independent of super-imposed substances.

It is not claimed that the solution of all the difficulties encountered by the trade with viscose type rayon fabrics has been found, but that there has been removed the chief complaint of shrinkage and stretchage. To be labeled "Sanforized-Shrunk Sanforset Treated and Tested Rayon", fabrics must not shrink nor stretch, within a strict tolerance, when tested by a wash and pressing test comparable to the treatment garments receive in a commercial laundry—a test more severe than most current standard wash tests for rayons.

The company points out that fabrics treated by the Sanforset process do not develop any latent characteristics of feel, appearance or odor, and therefore after treatment, any of the accepted trade finishes may be applied with reasonable care.

The treatment can be applied to many classes and shades of piece-dyed colors and prints, but it is expected that it will more generally be applied to fabrics where vat colors are used. It has no effect on a wide selection of dyes used, but Sanforset's responsibility is naturally limited to the maintenance of its own strict shrinking and stretching standard.

The reaction of the process on the fibers tends to maintain the tensile strength of the fabric; in fact, it usually improves the wet state strength, in some instances as much as 25 per cent.

Demonstrations and trials have been and are being conducted in many finishing plants. Licenses for the Sanforset treatment have been granted to a representative group of holders of licenses under the Sanforized-Shrunk compressive shrinking patents, and others are being considered. Since only little special equipment not usually available in most finishing plants is needed, commercial quantities of Sanforset fabrics are being started as quickly as plants are licensed to apply the treatment, and production procedures ironed out.

Promotion plans are introducing the process first to the trade and then to consumers, through national magazine and radio advertising. The Sanforset identification label is as effective as the more familiar Sanforized-Shrunk one, as it stands for thorough processing, careful testing, and strict maintenance of a standard.

Electrical Developments for Textile Mills in 1940

The January issue of the "General Electric Review" has outlined several electrical developments during 1940 that will interest the textile industry to review. For cloth finishing ranges a steam turbine generator was designed that is mechanically coupled to the lead unit, with follower units electrically coupled by the generator frequency applied to the squirrel-cage motors. Steam is taken from the boiler at 100 pounds or more, passed through the turbine which extracts power to drive the range, and is then delivered at low pressure for process heating.

Wound-rotor motors were applied on dye jigs where fabric is wound back and forth under constant tension between reels that vary 4.7:1 in diameter. While one motor operates to wind cloth on one reel, the other provides dynamic braking for the unwinding reel. A system for holding constant tension under these conditions was worked out, utilizing resistance, reactance, and capacitance in the secondary in proper relations.

A synchronized stroboscope was developed for viewing cloth during the printing process, the stroboscope being synchronized with the cloth motion so as to obtain a stationary cloth pattern regardless of speed. The equipment is useful in checking register in cloth printing and in discovering defects in either the cloth or printing process. The stroboscope is said to provide visibility up to 475 yards per minute in printing without blurring.

Caution Lights for Running Blends of Spun Rayon

By Frank Crossley
Berkshire Fine Spinning Associates

ALTHOUGH many articles* have been written on how to run a particular spun rayon blend, or combinations of blends on cotton machinery, the dangers which are likely to be encountered in this line of work have not always been sufficiently emphasized.

The success of any undertaking depends on the avoiding of costly errors, which, in today's highly competitive market, makes all the difference between profit and loss. A seemingly simple mis-step at the outset, or in any of the subsequent processes, may, and often does, lead to disastrous results in the finished product.

Watch Your Buying

Quality, production, time and waste are first controlled by careful and regulated buying. Great care must be taken in buying raw stock against orders for blended cloths. Rayons purchased must be of the same processed lot at the same factory. This equally applies to wools or any other fibers that are to be blended, otherwise streaky shady dyeing will result, as different lots of the same fiber are likely to finish differently. Although tests of raw stock can be made of different lots to see if they can be mixed, it is a dangerous practice and it is far more desirable to regulate the buying of the raw stock in the first place.

If a different lot of raw stock is needed to complete an order, a complete break should be made in each process through the mill. This means breaking out and changing over at every machine from picker room to the looms which immediately lowers production and raises costs, not to mention the serious delays and necessary supervision. The remarkable waste from the previous lot may be a negligible quantity unless used very sparingly and constitutes a problem by istelf.

The first caution is, therefore WATCH YOUR BUYING.

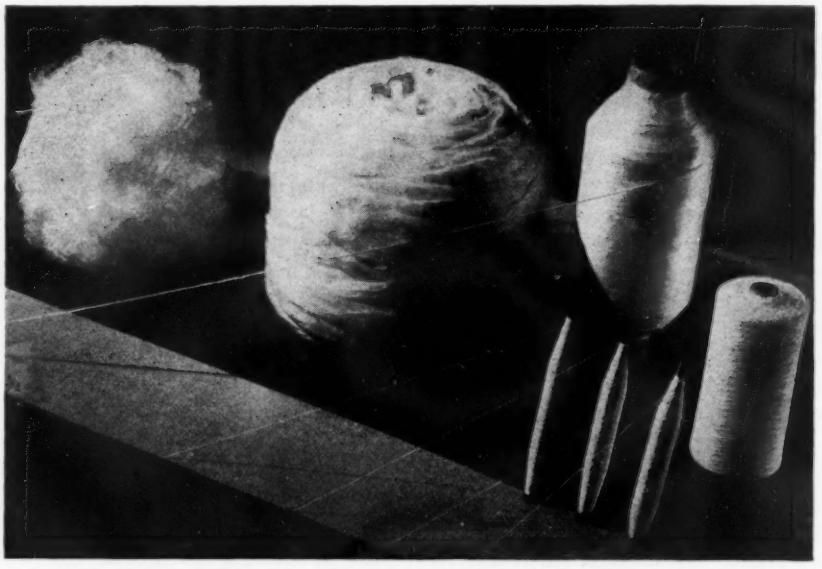
Not Too Many Styles

It is the greatest possible mistake in the manufacturing of blended yarns to make too many combinations at one time of small orders. This writer has had 17 different stocks running in 210 cards. These different blended stocks were of cotton, rayon, acetate, wool, silk, silk noils, etc., in different percentage combinations. As these fibers just mentioned dye differently, they are dynamite to each other, particularly the silk noils and acetates in combinations. With so many different combinations the chance of a mix-up is obvious. It is tempting Fate. For example: Suppose that a can of acetate card sliver has been put in the back of a drawing frame which should be running a rayon and wool blend—this will spread and scatter along through warp and filling, not being discovered until we find this supposedly rayon and wool blend dyed in the cloth and then see white acetate fibers strewn all over the material. A second dyeing of the cloth with an acetate dye would then be a necessity, which would generally absorb any profit that was being realized on perfect cloth.

Cleaning the Machines

Where so many different stocks are being run on a limited number of cards, the pickers have to be continually changed from one stock to another. It is virtually impossible to do a perfect job of cleaning by hand after running silk noils or acetates, or for that matter, any other stock, since the fibers of the previous stock are thoroughly worked into the corners of the lattices, aprons, grid bars and cages of the picker. Cleaning by air is also unsatisfactory since the fibers are simply blown from one place to another, and, as often as not, will blow into the picker running next to it. This trouble of cleaning is found also in the cards, around the screens, in the wire, especially the flats which take a long time to brush out. Even after using vacuum gadgets, alien fibers insist on working into the new stock put in.

So the second important caution is: KEEP THE NUMBER OF STOCKS RUNNING AT ONE TIME TO A MINIMUM.



Samples of rayon staple fiber in raw stock, Bradford top, roving, tubed spun rayon yarn, and spun rayon yarn on quills. (Photo courtesy Tennessee Eastman Corp.)

*The July 1940 issue of COTTON was devoted almost entirely to the processing of rayon staple fiber and spun rayon on cotton mill machinery.

Let us look now at the brighter side of the picture and see what we can do to avoid these dangers.

Experience has shown that keeping in the range of four or five yarn styles is the most practical since limiting the number of stocks can keep the pickers humming along on the same type of raw stocks. Raw stocks can be tinted with a fugitive color that will come out in the finishing. Even this is limited, however, because of basic colors; a blue or a green for example, looks very similar under artificial light. It is as well to make sure also that employees and those in supervision are not color blind since this is not an uncommon physical defect.

It is also practical to make screens or partitions of cloth hung from the ceiling, isolating pickers from one another, thereby really making a number of individual picker rooms and greatly controlling the chances of foreign fibers getting into another stock. This can be applied also, in the card room, segregating the card sections, especially in the running of acetate which flys through the air with the greatest of ease, ultimately causing that specky finish in the dyeing of which I spoke.

Too much emphasis cannot be laid on the subject of cleaning the machinery from one stock to another. The drawing frame rolls, coilers and clearers must be wiped and brushed off thoroughly, with the roving frame rolls, clearers, and flyers receiving the same treatment. The spinning, warp preparation and weaving all need the same consideration.

All these different fibers in combinations can be successfully used in controlled systems where the number of stocks is reduced. Stocks can be dyed at the hopper with fugitive dyes; a tag on every can and a mark on every roving and bobbin are very effective in the carding and spinning. Accuracy and careful supervision are the keynotes of success in the running of these fascinating blends, and employees should be given the most careful and rigid training.

Although all this means hard work, a complete yield of perfect cloth is the generous harvest.

Some Types of Salesmen

By C. K. Cobb
General Superintendent and Secretary
Canton Cotton Mills, Canton, Ga.

BACK IN the April 1939 issue of COTTON there were two articles in the nature of a debate; one gave the views of a mill man on the salesmen who call upon him, the other was by a salesman paying his respects to the men he calls on in the mills. As a general superintendent charged with the buying for our plants, I would like to add a few thoughts to what was said in that debate, in the hope that all sales will read and profit.

"The Long Winder"

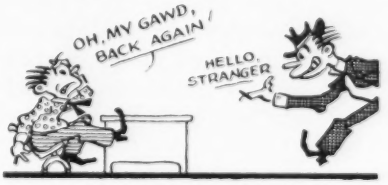
First, we should realize that there are very few buyers or purchasing agents who do not have other duties. In many cases the treasurer, secretary or superintendent looks after the buying of supplies and has a full time job other than this. The buying is just a side line or an extra job which he has to do, and must be sandwiched in between his other duties. I mention this because some salesmen

"The Snooper"

seem to have the idea that our job is to listen and give them all the time they want.

Often if one salesman is ahead of another and he is taken inside and given a 30- or 40-minute interview, the second tries to stay the same length of time or else feel "cut off" if he is told to be brief or rushed to the door. Why can't all salesmen be treated kindly, courteously, and humanly without taking advantage and trying to monopolize more time than is necessary!

Here are listed what I find to be the most objectionable types of salesmen:



"The Come Often"

1. *The Long Winder*—This fellow tries to impress you with his knowledge.
2. *The Sportsman* — This one talks generally, trying to hit on a common subject for a lengthy discussion.
3. *The Come Often*—Even after being told that it would be weeks before you would care to discuss his line.
4. *The Weekly Supply Man*—90 per cent of orders are mailed, yet this "bird" wants to consume your time and then wonders why his firm is losing your business.
5. *The Snooper*—Tries to find out information from supply man or overseer, then tells you more than you can tell

"The Hard Luck Guy"

him about your own mill.

6. *The Hard Luck Guy*—Tries to get business on sympathy.

Salesmen are necessary (evils) and can be of great value to the mills. The majority are very considerate and we rely a great deal on their suggestions and comments. A buyer's prayer is "Give us not more, but *better* salesmen".

Illustrations by Jim Henderson, Parks-Cramer Co., Charlotte, N. C.

Take a Running Inventory

By H. E. Wenrich

EVERY TIME inventory rolls around, we begin planning days ahead just what means to take to lessen worked-up stock so as to ease the final day of inventory reckoning. Low stocks are too often considered an asset at inventory time—a certain amount of production control is essential to speed up raw stock taking, but it often becomes a serious handicap if taken to extremes. This holds especially true where a wide range of fabric numbers are being woven in a single plant. The more constructions in work, the more stock is required in order to keep a steady flow of material from warping, sizing, winding, quilling, and twisting departments to feed the looms. Some plants, in order to minimize this required flow, generally close down an extra day or two over the week-end, especially auxiliary departments, so as to have ample time for checking and re-checking in case of error.

But regardless of what system is used, I doubt the need of taking inventory over the week-end; shutting the plant down during spirited demand; or the practice of curtailing certain departments in order to slow needed material to other departments. In fact, I believe that any inventory—monthly, quarterly, or yearly—in any size textile plant can be taken on the run. A certain amount of leeway is taken for granted—a few yards more or less; a few pounds more or less. So don't expect an absolutely perfect inventory, (as there is no such animal). Of course, too many yards or pounds loss means one of two things: an error, or too much waste. Too many yards or pounds gain generally means an error. Re-checking can often be limited to one of the two yarns: warping yarns or filling yarns. And where a certain number is the only item needing re-checking, it can be confined to that particular yarn in either the warping or filling.

A temporary stop-off arranged between departments will eliminate errors. This does not necessitate the stoppage of needed matrial. What is required, is a speed-up of the flow between departments feeding the weave-shed previous to the stop-off of the depart- so an hour, or a few hours of machinery stoppage will not seriously curtail weaving. Large units stop-off by sections.

Stopping Machinery During Inventory

The stop-off is arranged for each department, starting at the entrance or exit. Some prefer the exit and inventory backwards: their reasons are obvious: In the first place, working backwards, one catches the incoming material going past, whereas, in going forward with the flow of material, one is likely to check the same lots the second time, and in some few instances, a third time. In the second place, working backwards against the supply allows ample material to keep its proper channel without causing delays and confusion. If you are one of those inventory bugs that follow the supply, try reversing your usual tactics sometime to see the difference in the results.

In following the system of inventory of checking backward against the flow of material the outgoing shipments of grey goods are checked first and the incoming shipments of raw stock checked last. This will bring in logical order: shipments bagged or crated, grey goods binned to ship, pieces ready for binning and shipments, uninspected pieces not measured, pieces in process of measuring and inspection, pieces in process of picking, unpicked pieces, pieces waiting for the picking room at the picking room. Stop-off between twisting and weaving department and between quilling and weaving department. Looms—woven cloth on take-up rolls, bobbins on loom and in shuttles, piece tickets on loom showing amount of warp yardage to be taken off loom to complete warp, pieces in piece-roll trucks ready to be moved to picking room. Stop-off between sizing department and twisting department and between yarn storage and quilling department. Open stop-off between quilling and weaving department as inventory is taken in quilling department at present time. Quilling—bobbins on loom boards and in loom cartons ready to move to weave shed, bobbins lying loose in supply bins, bobbins in quiller-bins and on spindles, cones in quiller-bins and in work on spindles, cones in supply bins, cones in unopened cases. Open stop-off between twisting and weaving department. Twisting—warps twisted and ready for looms, warps in twisting and entering frames, warps in supply racks. Open stop-off between sizing and twisting department. Stop-off between warping and sizing department. Sizing—Warps ready for twisting department, warps in process of sizing or slashing, warps in racks waiting to be sized. Open stop-off between warping and sizing department. Stop-off between yarn storage and warping department. Warping — warps ready for sizing room, warps on beamer stands, warps in process of beaming, warps nearly completed on frames (estimated as full warps), warp bands or sections (running section estimate as complete), cones or bobbins on creels, cones or bobbins in supply bins, unopened cases of cones or bobbins. Yarn Storage—cases of yarn for both warp and filling, incoming cases waiting storage slips. Lift stop-off between yarn storage and warping and quilling departments.

Now you have your tabulated file of raw materials, materials in process, and your grey goods woven. There is no particular merit in

this list of headaches until they have been boiled down to a few essentials showing you what is what —as to whether you have gone into the red, or can take that long delayed trip to Bermuda. Let us assume you want to ease the headaches, both in the taking of a running inventory and the final phase of boiling the mass into facts. To accomplish this inventory in an efficient and speedy manner, certain tasks, previous to inventory, can be undertaken which will ease the tasks. No need to curtail production; merely introduce a few simple kinks and methods that will help in the primary purpose of inventory control.

Preliminaries to Inventory-Taking

Lets take the completed piece goods as an example and follow through. The pieces average when woven, 76 yards to 79 yards to an 80 yard warp length, or 114 to 118 woven yards to a 120 yard warp-length piece. Previous to inventory charts have been worked up listing the average length per piece for the different qualities in yards and pounds accordingly. The inspected piece goods are of course measured and itemized for correct yardage but in using the charts when combining these goods with unmeasured pieces, the odd length is increased or decreased to correspond with a full-length piece. All unmeasured pieces are estimated as full length pieces.

The unfilled chart in Fig. 1 illustrates the foregoing method and a look at a completed chart will instantly give the actual weight of yardage of any particular type of raw or finished stock. In this particular chart for filling yarn, the answer on 1 to 100 pieces and from then on in tenths can be found at a glance. When the amount of pieces runs above 100 and into a single digit from 1 to 9, adding the digit to the chart number will give the amount of raw stock in question. Example: CHART—Quality 2280 (list weight per yard and denier, etc., at top of chart.) We have for the piece a total of 6.70 pounds of yarn for 67⅜ yards. We have a total of 381 pieces listed on the inventory and therefore read down 300 pieces at 3 is 2,110 pounds plus 81 pieces if desired or read 3rd down and 8th across for 2,656 plus 1 piece of 6.70 or a total of 2,662.70 pounds on this one quality.

FILLING YARN

Quality 2280			Warp yards 80		Woven yards 76.3		
			1	2	3	4	etc.
1	6.70	+	73.70	80.40	87.10	93.80	
2	13.40		140.70	147.40			
3	21.10		217.70				
4	27.80		284.70				
5	34.50		351.70				
6	41.20		418.70				
7	47.90		485.70				
8	54.60		552.70				
9	61.30		619.70				

Fig. 1.
Charts are adaptable to any weight yarn or yardage.
Finding the reading of 10 pieces move decimal one point. For 100 pieces, move two points. Example: Inventory quality 2280 shows in stock bins and pieces off the loom as 381 pieces—use 3rd down plus two points over to 8th column reading 2656 plus 6.70 or a total of 2,662.70 lbs. of filling yarn minus waste.
2656 + 6.70 = 2,662.70.

Charts are made for each quality and if desired can be made to include both warp and filling yarn poundage by using blue ink on one yarn and red ribbon for the other yarn. To save the charts for future use, they can be typed upon 2-ply or 3-ply Bristol board.

Charts are also made up for warp weights, listing cuts from 1 to 9 and warps in top column from 1 to 9 which in reading will give any warp from 1 to 100 cuts, etc., or a total as in the previous chart. Using the same chart will give warp-weight for woven pieces minus waste.

Charts are made for cone, bobbin, or filling bobbin weights including tare or net alone if so desired. Thus 1 unit to 100 can be found at a glance, etc. In running various types of filling bobbins, separate charts are advisable—although they can be made on one chart.

The question of waste is a ticklish proposition. This must be solved according to the methods used and found practical in the auditing department. If yarn is to be figured minus or plus waste, the charts are figured accordingly.

There is one other kink used in the weave room that minimizes guess work to a near perfect finding. This is the making of a cloth-estimating gauge for figuring amount of yards on the take-up roll. And here, several different types of gauges are feasible. Mentioning two types, the rule-type and circular-type, I may state that the rule-type is the handiest where a small number of fabrics are being woven, while the circular-gauge is more suitable where a large number of qualities are in the weave-room. The rule-type is illustrated in Fig. 2. To make the circular-type, 50 or more qualities can be added around the disc, using one side of the reading line for yardage on one quality and the opposite side of the reading line, turned about, for a second quality.

Supposing you want eight qualities listed on one side of the rule. Draw eight lines. The illustration shows four numbers being woven, and gauged by the rule on one side. The opposite side of the same ruler can carry a like number of

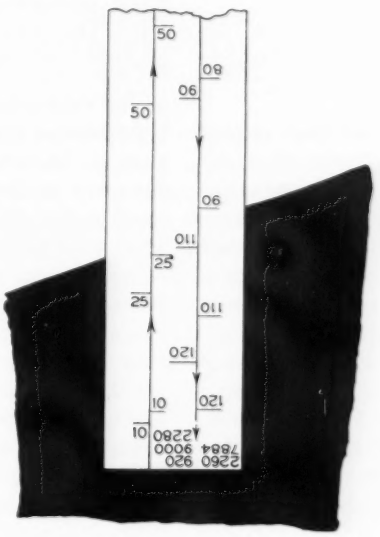


Fig. 2

Locate fabric scale on 2-ply board and glue to ruler. This chart is suitable for any type woven or knitted fabric.

If desired, same charts can be devised ofr conversion of yards into pounds. Space additional lengths as desired. Read graph direction of arrows . . . . . →

weaves.

Draw the chart upon a 2-ply Bristol board or gummed tape and secure to an ordinary six-inch or foot ruler to handle the depth of the laps necessary to complete a full-length piece.

At the end of the ruler, the qualities are listed. Placing 0 on the take-up roll and reading up, the depth of the laps will give the amount of woven yards on the roll. This estimated graph is taken by running each known quality over an inspection frame and marking in 5 and 10-yard units. One thing is important; the tension of the roller on the inspection frame during graph-marking must be as near as possible to the tension of the roller during take-up at the loom. Where several qualities are similar in density, the same gauge can be used for each of these qualities.

Simple kinks can save you many hours of valued time. Regardless of the type of inventory you take, a few hours spent in pre-inventory work in bringing your ideas for charts and accessories into usable form, will eliminate loss of time and costly errors at your busiest periods.

Is This "Unity in Defense"?

(*Continued from page* 56.)

ALL OF THIS is a matter of utmost concern to the textile industry which has probably mobilized for its share in the national defense more rapidly and more efficiently than any other industry in the United States. Being engaged largely on staple products and having a surplus spindleage, the industry has been able to plunge into the defense program without delay and in a very effective manner. We have heard little complaint from members of the textile industry on the score of taking defense orders at little or no profit, but there has been bitter complaint about the abuses just referred to.

The textile industry is a conservative and well-established affair, and the prices of textile products can probably be protected from inflation unless this inflation is forced on the industry from without. As these mushroom defense projects spring up and are promoted with the utter recklessness that has been observed in the building of the cantonments, there is going to be a serious disruption in the labor situation in the textile mills. These temporary defense projects are going to be scattered pretty generously around the country, and when they begin to tempt workmen away from other industrial employment by offers of from three to five times the wages they have been making, there is not only going to be disruption of production in vitally important textile plants, but there is going to be widespread dissatisfaction among textile workers throughout the industry.

While Congress and the public press may have just discovered there is racketeering going in labor circles, this could hardly be considered front-page news.

COTTON has never questioned the fact that settled labor in any industrial plant has the indisputable right to organize a union of its own volition. COTTON has not questioned the fact that there may be many cases where properly organized and honestly run labor unions might be needed in certain types of industrial employment in order to give the workers proper recognition in their dealings with employers of enormous numbers of men. We have been brought to the conclusion, however, that it is practically impossible for a labor union organized according to the American principles of unionism to escape completely the risk of becoming a racket. This is no reflection on the membership of the union, which may be composed of very high-class working men. It is simply a matter of our believing that you can not free any group of men from responsibility, give it a complete monopoly, and let it set its own prices and establish those prices by force, and not wind up with a racket. It just isn't human nature to be able to withstand the temptation to misuse such power. The corporations grossly misused this kind of power in the days when the early labor unions were fighting for decent treatment of labor, and none deplored this abuse of power and fought it any more bitterly than these same unions who were demanding it for themselves.

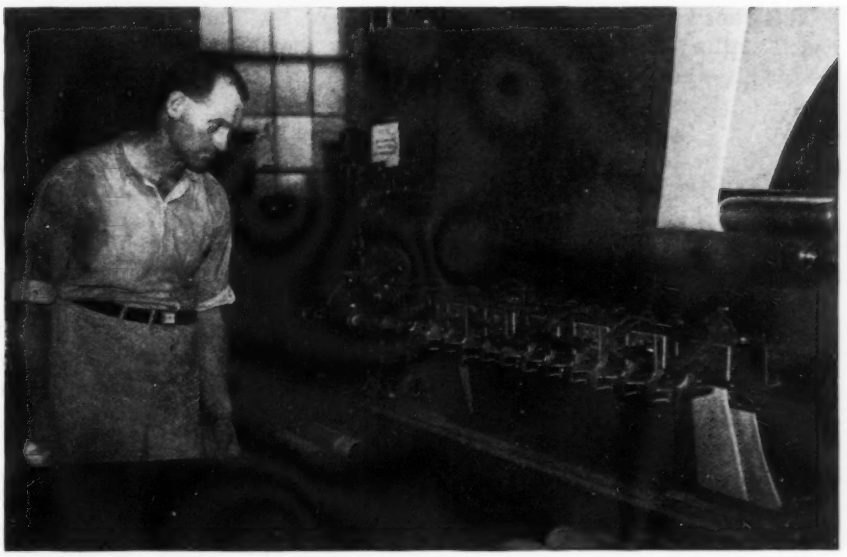
It took 25 or 30 years to work out a system of controls to keep corporations from frequently becoming rackets, and it is our belief that it is going to take the same general sort of control to prevent labor unions from becoming rackets. We firmly believe that, given the unlimited power demanded by labor unions, any organization will become a racket, whether it be a church, a government, or a labor union.

COTTON has contested the labor union contention that men should be forced to join their organization against their will. Laws have been passed recently which make it possible for labor organizations to force unwilling men to join their unions and pay tribute to them with the alternative of starving if they refuse to do this. COTTON has never agreed that this is a fair or decent procedure, and will not agree. We have repeatedly opposed the insistence of labor unions that they be granted the right of exemption from the anti-trust laws, and given the right to operate a combination in restraint of trade as a necessary part of the labor movement. We have yet to hear of any labor union that has ever expressed a willingness to be regulated by the same laws that regulate industry.

IF THIS whole defense program is not just another big boondoggling enterprise, and is the serious matter that we have been led to believe that it is, then every industry and every workman must contribute and work and suffer privation before we find our way out of the difficulties that we believe beset us. Even if everybody in the United States worked as he never worked before, and even if every manufacturing plant ran every hour that it could possibly run, and if inflation could be completely suppressed, there is still a swell chance of the United States going broke within the next few years on account of a top-heavy national debt. If the entire defense program is handled in the same manner as has been observed in the construction end of it, we will certainly go broke, and that without getting the means of defense to protect us from the dangers that we foresee.

"SANFORIZING PROBLEM"

• *On pages 56-58 of the November 1940 issue of* COTTON, *there appeared an interesting article entitled "Cotton Mill Men Give Opinions on Sanforizing Problem", which consisted of replies from seven men, in answer to a query from a mill whose selling house had said that the shrinkage of 15 per cent in mill's goods (38½-inch, 51x44, 2.90-yard, 15s warp and 12s filling) was excessive. One of the contributors, whose reply was Answer No. 7, read the entire story on publication and has submitted the following further discussion, including his experience on some of the points brought up by the other contributors, as well as an additional discussion of yarn twist and its relation to Sanforizing.*



IT IS TRUE, as **Answer No. 1** brings out, that cloth can be *over*-Sanforized so that when washed it will stretch, but it is difficult for me to imagine a fabric being so badly over-Sanforized that it would continue to stretch after each washing, as this man mentions, as over-shrinkage usually disappears at the first washing. The subsequent stretching he refers to was no doubt caused by too much tension when slide-ironing after washing.

The man who wrote **Answer No. 1** also wants to know "the ordinary laundry shrinkage" of the cloth in question, declaring that the fact that the inquirer "gets 15 per cent shrinkage on his Sanforizer tells us nothing." Now, this is not quite right, and to straighten out this point, let's start at the beginning.

Before any fabric can be Sanforized, a sample swatch of it must first be given a standard Government shrinkage test, known as CCC-T-191a, which is a very rigid wash test method for cotton and linen fabrics. Now, if this test shows that the cloth has 15 per cent shrinkage in it lengthwise, then the Sanforizing machine is set to take out that shrinkage within 1 per cent, and this test should tell our friends much more than an "ordinary laundry shrinkage", because the laundry shrinkage is not such a true guide as the Government test method which all Sanforizers follow when setting their machines to shrink fabrics.

In a way, there is no such thing as "Sanforizing shrinkage", as the proper term should be "Government wash test shrinkage", the Sanforizing machine is one of precision, but has to be intelligently set to take out whatever shrinkage the wash test calls for. If a certain fabric is a bad shrinker, don't blame the Sanforizing machine; place the blame on the fabric.

Your **Answer No. 2** is generally sound, particularly in regard to the discussion of the difference in shrinkage in the same fabric in the grey and after it has been processed and finished. Preparatory finishing processes, when used with ordinary tension, do, in most cases, have a tendency to set or decrease the shrinkage of the commercially finished un-Sanforized fabric from that shown in the grey state, particularly in width, just as this man points out.

In **Answer No. 3**, the statement is made that "the texture of the fabric, that is, the weave, count, etc., have more to do with shrinkage than anything else." It also suggests that the inquirer "might try a little more twist in the filling". This answer further says that "some fabrics just simply cannot be completely shrunk".

It is true that the construction of a fabric is usually the determining factor in shrinkage. But it would seem doubtful, as this answer suggests, to put excessive twist in filling to try to overcome warp shrinkage, for them you are simply transferring the trouble and may have excessive shrinkage in the width.

Furthermore, it must be only on rare occasions that a cotton fabric cannot be completely shrunk and even rarer when they continue to shrink, except possibly within very small limits. Cotton fabrics generally have a final shrinkage limit, which isn't necessarily true of wool, which does continue to shrink or felt on each washing. There are times when certain cotton fabrics with a big shrinkage, say, 20 per cent, offer some difficulties in attempting to take out this great shrinkage, and in many of these cases of heavy shrinkage the machine may shrink the cloth 20 per cent, but after it is dried and released by the machine, some of this shrinkage may rebound and leave the resultant shrinkage actually taken out only 15 to 17 per cent after the goods have come off the machine, whereas 20 per cent was wanted. In these

cases, if the situation allows, the goods can be heavily sized so when the machine shrinks them 20 per cent the sizing will dry and bind the goods to this maximum shrinkage.

This answer also stated that "some mills have goods mercerized with the idea of reducing shrinkage" and adds that "of course this is very expensive." I do not agree that mercerization is necessarily expensive, because, as I pointed out in my own reply **(Answer No. 7)**, "very often these fabrics with excessive shrinkage are fully mercerized before Sanforizing, and in some instances this mercerization under tension, both warp and filling, will set or kill from 30 to 50 per cent of the potential shrinkage of the cloth as shown before mercerization," and, "very often this mercerization process will pay for itself" in savings in yardage.

I agree with **Answer No. 4** that an important thing to watch is that "processing from the warpers on be checked for excess tension that will cause the warp to be woven in a stretched condition. The wet finishing, if such a process precedes the Sanforizing, should be checked for excess tension that will deliver the cloth to the cans in a stretched condition.

I also agree with **Answer No. 5** in declaring that the amount of shrinkage cannot be changed by changing the warp and filling twist multipliers. "We doubt," this man said, "if the twist multiplier has any effect, as the type of weave is usually the determining factor in the amount of shrinkage." I agree.

In **Answer No. 6** there is a statement that I believe is the reverse of what the contributor probably meant. This answer said in part: "On our 4-harness work with a construction of 70x40, we have around 13 per cent shrinkage. This shrinkage is hard to get out without a lighter Sanforizing blanket and then it may be necessary to run the goods two or three times. We find that a few more picks per inch will also decrease the shrinkage, and in this case more ends per inch will help."

I think that this man is either in error, or was mis-quoted, about using a lighter blanket, because, to get a greater amount of shrinkage from a Sanforizing machine, a heavier or thicker blanket, not a lighter one, is needed. But he is eminently correct in saying that as a rule the closer the weave, the less the shrinkage. This is simply common sense: if you close your fingers together there comes a point when you cannot close them any further because they are all laid tightly together; it is the same with a fabric, if the yarns are all closely packed together (heavy sley and pick) the fabric cannot shrink much more, unless it is some form of harness weave where the floated yarns begin to ride over one another.

Now, I would like to submit a few general comments as to the yarn twist problem in connection with manufacturing cotton cloth and shrinking it.

To go back a little, let us say that it would seem to be the purpose of every mill in their spinning room operation to put as little twist in their warp and filling yarns as practical. Twisting yarn costs money, and there is only exceptional occasion to put more than this necessary minimum amount in any well run mill if efficient manufacturing is expected.

This minimum amount of twist for each type of cotton should be determined by the amount sufficient to keep the ends from breaking down too often at the spinning frame and to keep the roving from breaking back in the creel, first, and then secondly, to obviate too much breakage of yarn in subsequent processes, which might stop the machinery; this applies to both warp and filling.

This minimum amount of twist is primarily determined by the length and character of cotton used in each instance, together with how well or badly it has been prepared in the process prior to spinning. For instance, why try to overcome bad carding with extra twist?

So, when a man says that he is using 4.75 times the square root in his warp twist and 3.50 in his filling twist, it must be assumed that he knows from experience that this is as low as he can go to get good results all along the line from the processes and cotton he is using. Therefore, when someone suggests that he take out a few turns to help his cloth shrinking problem we have a right to further assume that he would thus detrimentally affect all his preparatory processes. If it is true that he can take more twist out of his warp and filling and not hurt the efficiency of these processes, then it is also true that he has been losing money and affecting his cloth all the time by putting an unnecessary amount of twist in his yarns, and he should have been using these lower twists all the time and not just now on account of his cloth shrinkage complaints.

It isn't only the shrinkage problem that excess twist concerns, but the hand and draping qualities of the subsequent finished cloth are involved, together with extra expense in spinning the yarn. So then, theoretically speaking, all cloth, except crepes, etc., should be made with the minimum amount of twist, both warp and filling, consistent with the grade and staple of cotton used in a given situation, to get the best results in all the different mill processes.

The original questioner on this Sanforizing problem brings up the point of twills showing different face finishes. Here again the Sanforizing machine should not be blamed, but a careless operator. If he shrinks a lot of goods with the twill side next to the blanket and then the next lot of the same goods with the twill next to the cylinder, he is simply doing a careless job, unless there be some special reason for so doing. The same thing applies in letting the machine get so hot as to shade the color—this is simply the result of poor machine attendance.

Of course, we are speaking of good colors; some fugitive colors cannot be handled under any conditions without blotching or streaking.

He is quite right in objecting to having his fabric shrinkage compared with another make of same weight, but different construction. This is very unfair, as the shrinkage of any fabric must be determined by its own wash test and must not be compared to even a similarly constructed fabric except in the broadest sense.

"Why I Changed My Mind about My Boss"

There are some good practical points on loom-fixing advanced in this soul-searching confessional that Bob made to Jack on the beach

WELL, THE WIFE and kids had been after me to go to the Bay for a week-end outing for some time, but I was always so worked down that I felt more like lying around home. But they got me off this time, partly because I was tired of being worried about it, and partly because I wanted to go this time; otherwise, we would have stayed at home again.

We made the 75-mile drive in record time, and didn't have but two blow-outs. The cool, damp breeze off of the Bay certainly does make a fellow feel fresh. We had been there for perhaps an hour, and had us a little cottage rented, and what do you think? Another flivver came hopping in and stopped right close by. And the driver was none other than an old friend of mine—he has a long name, so for brevity and because it is as far from his real name as I can get, we will call him Bob.

Now, Bob and I had worked together quite a lot in our younger days. Bob had drifted around a lot more than I had, though, and I had not seen him for three or four years. Our wives were old friends, too, but the kids were all like strangers, but you know it doesn't take a bunch of kids but a little while to overcome a little handicap like that.

No use going into the details of all the greetings. As I said before, Bob has drifted around more than I have. He has been a weaver, a loom fixer, and a slasher tender. His idea was that the more jobs a fellow could do, the more easily he could get a job when he needed one. And I guess he is right at that. He didn't want "to be tied down under no overseer"—is the way he put it. So when things didn't suit him, he just moved on, but at that he was still a likeable fellow. He was honest and respectable, and a very close observer of things, and a good mixer with all the help. He was not a gossiper or a knocker, just a bully good sort of a fellow.

Bob is a boss weaver up at the Whosit mill now. After we had our supper, and everybody got settled down for a rest, Bob and I went out to the flivvers and got the cushions out, and got our pipes fired up. We had both come to get cotton milling off of our minds for a while, but fat chance! cotton milling was all we could think of, so that is what we talked about.

"Bob," I asked, "How did it happen that you changed your mind about a boss?" Bob had always said that he would not be a boss at all, that he just didn't have the makin's in him to be the kind of a man it took to be a boss. He wanted to go on with everybody liking him. He wouldn't lose the respect of his friends for any kind of a bossing job. That was Bob's way of arguing it.

When I asked Bob this question, he hesitated, took another whiff on his pipe, and then said, "Well, Jack, it's a long story. It took me a long time to get it all together. To answer your question, it will be necessary for me to tell you about a couple of overseers; one in particular, the other is not so necessary except to show just what a contrast there can be in men."

"Go on with it, Bob," I told him. "I'm a good listener, and I am sure that anything you have observed will be interesting."

So the story from here out will be told by Bob himself. After changing his position on the cushion, and pulling off a shoe that was hurting his corn toe, he settled down on his story:

Several years ago (Bob said) I was fixing looms at a mill, and for some reason they changed boss weavers. The new man came in with a bang, so to speak. He was, to put it in another way, the "Great I am". I had not been fixing looms much more than a year, so you know about how much I actually knew about it, and about how much I thought I knew about it. That doesn't make any difference now, though.

Well, less than a week after this new man came in, I started to work on a loom, and he came along and stepped right up with his confidential bluster and said, "Let me show you how to fix this loom." I got up and said, "All right, sir". Then he went on to explain himself to me, saying, "Now, I consider myself a Draper expert. In fact, I am the first man in the state that ever saw a Draper loom . . ."

Well, Jack, I came very near taking out right there, but something told me to stick a little longer and see how quick this guy could lose his job. And I am surely glad now that I stayed. This guy took an empty bobbin and told me we would use it for a gauge. He measured the stroke of the picker stick with it, and the distance from the lug strap down to the parallel shoe, and set them accordingly. Then he pulled a little block out of his pocket, about a half-inch thick and an inch long, and then pushed the shuttle up in the box and stuck this in behind the end of the binder to gauge the setting of the shuttle box. He got it all set

up, and started the loom, and it ran.

I was mean enough to be hoping it would not run, but it looked like I had to give up, and I thought I had learned something. The boss told me he wanted all the looms in the room set up that way. I had another job in a little bit, so I proceeded to set the loom up according to Hoyle (?). To my surprise, it wouldn't even make one pick!

I went after the "magician", and he came and looked at it, and then looked around and saw I had another flag up, and said, "I tell you what: You get your other flags down and I'll see what's wrong with this one." I didn't hurry to get back to bother him, for this loom was a kind of a chronic anyway, and I was glad he was going to fix it. After a while he got it fixed and then came and told me that he saw he had me on the right track, but that the cams were pretty badly worn on that loom, and he had to put the power back on it for the time being, but when we had more time we would give it a general overhauling, and then it would run like we wanted it to.

Well, on Sunday he got me and two other boys who were learning to fix, to come in and overhaul our looms; that is, I mean he had us set our shuttle boxes, picker stroke, and lug straps. Well, sir, on Monday morning, half of those durned looms wouldn't start up! He got in like a good fellow and helped us get straightened out, and then he let the gauge business alone. But it was a joke among the fixers for a long time.

The next week we had a smash or two, caused by the rubber in the frogs being worn so much that the lay would come too far forward when the loom happened to bang off, and if the shuttle happened not to be out of the warp, it was a big smash. Well, this expert ordered enough rubber to go in every frog, and when it came in, he had a boy whom he had started in to learn to fix put the rubber in. All this boy knew was to put the rubber in. He did that all right, but he left a lot of work behind for the fixers. You know, Jack, there is a lot about this frog setting that lots of folks don't know. You see, the shuttle has to travel all the way across the loom while the crank shaft is making half a revolution, so you see the shuttle is going a lot faster than the lay. Everybody knows this, but here is what they don't think of: as the shuttle enters the box, it will travel three or four inches while the lay is traveling half an inch. When you have a loom set up with as little power on the pick as possible, which is desirable, the shuttle enters the box and raises the dagger just in time for it to clear the frog-piece and prevent the loom from banging off. Now, just set your frogs back half an inch and see what happens. The loom just won't run until you put more power on the pick. Of course, we must have the frogs packed full enough that they will protect the warp from the shuttle when the loom slams with the shuttle in the warp, but if we go any further with it than is necessary we do so at the cost of added power on the pick.

Well, the young boy, as I was saying, put the rubbers in the frogs; and then we had to fix our looms over. We had to put on more power on the pick, we had to cut belts and tighten up the friction clutches. Then something else tore loose, the frogs began to burst and break up. The boss ordered more frogs, and before they came he ordered still more frogs. It was a fright the way those frogs were breaking. The mechanic had to patch them up, and he got tired of that.

It got to the point where something just had to be done about it, and we noticed that the new rubbers were not nearly as hard as the old ones were. You see, when the loom slammed, the soft rubber would give or swell or press—I don't know what it is—but the frog wouldn't hold it; the whole bottom of the frog would burst out. We went over the job then and cut those new rubbers half in two and put half rubber and half leather in the frogs, and that stopped the frog trouble.

That new boss took a big hand in everything from the very start. We had what we called a textile club, and we met once a week. This guy thought it was a grand thing. We thought that, too. The idea of it was to discuss mill machinery problems, and anything else conducive to the betterment of both operating and social problems. Well, this guy went around and invited everybody to attend the club. He even invited the president of the club. He just made a monkey of himself. I would have quit, but I just wanted to hang on to see what he would do next. Every time he got an idea that anything would do a little good, he always went too far with it. Everybody got to where they were afraid to offer any kind of a suggestion at the club, or anywhere else, for he always had to improve on it enough to ruin the whole thing.

The superintendent was one of these hard-boiled guys, too, and he got to dealing this boss weaver a lot of misery. And, my! how he could make that boss weaver step around. And he had a second hand in the weave room, too, who would jump around like a chicken with its head cut off every time he got an order to do anything. It was funny to watch these two men try to run that job.

Finally, the superintendent got so rough on the boss, and the boss tried to pass it on down the line, until things got in a bad way. The boss got to firing help, and the help got to quitting, and in the wind-up the boss weaver got through, too. Well, that was no surprise, in fact we had been looking for that to happen for several weeks. It was funny to us to see him jump around and try to be busy at something every time the superintendent came through the mill, which was often.

Well, the new boss weaver came on the job after the "expert" had gone, and we wondered how long he would last. But, Jack, this new man made such a change in my viewpoint and career that I made it a special point to learn all about him I could. As I told you at the start, it took me a long time to get it all together. I saw a lot myself and a lot I learned from others, but I know it is all straight. So I am going to tell you everything just like I was right there and heard it all myself.

The superintendent had tried to hire this man before for a second hand's job, but he would not consider it, as he already had a good second hand's job. The superintendent had written him, and had even

wired him once that the second hand's job was open, with good chance of promotion. The second hand wired back that he was not in position to consider the proposition at the time.

That sort of peeved the superintendent, and so he didn't offer this new man (by the way let's call him Newman) another job for a long time. But it was Newman on the job now, after our "expert" had gone.

I have never seen a man take hold of a job like he did. He was short of help for two or three days, and the second hand was jumping around as usual, busy as everything and getting nowhere. The superintendent recommended the second hand to Newman as a very competent man for the position, he was a hustler, but he lacked other qualifications to make him competent as an overseer, otherwise he would have been promoted at this time.

The superintendent gave Newman a history of all the employees, and it seemed that there was no one on the job who was worth a flip. The old man told Newman that they had plenty of time slips at the office when he needed them, and he was sure he would need to use a good many before he got things straightened out.

But Newman thought differently about it, though he didn't say so. In fact, he didn't say much to anybody about anything. The old man told him that the management expected fifty thousand pounds a week. Well, things were pretty badly shot up, all right, everybody could see that, but Newman never said a word about it. He didn't come to the job knocking the other fellow, and was putting up no alibi whatever. He got some more help in the first week and got off a little better than forty thousand pounds. That looked a little slim, and the second hand was scared half to death. On the next Monday morning, the second hand said, "I'll tell you, Mr. Newman, we've got to get in and push this thing or the old man will run us both off." Newman said, "Don't get nervous about it, now. Just quiet down and take things easy. We'll get just as far in the long run."

Newman had already located part of the trouble, and he didn't boast about it or go around and tell what he was doing or what he was going to do. The very first start he made was in the slasher room. The superintendent had taken him in and introduced him to the slasher tender the very first day, and took pride in telling Newman about the equipment. "These pop-off valves," the superintendent had explained, "are set and sealed to pop off at sixteen pounds." After staying around a little while, Newman noticed that the pop-off valves were working all right. They were popping off at sixteen pounds! The old man had told Newman that the slasher man was very proficient, knew his stuff, and could be depended upon.

Newman saw right away that he had to do something, and that he had to be careful how he went about it. He talked to the slasher tender some that day, but didn't criticize anything. He was just getting a line on the man. He knew he must get his co-operation, or get another man, and he preferred his co-operation.

"Gosh," said Newman after he had gotten far enough along. "Don't that popping off get on your nerves? I notice they pop off every time you slow the machines, or stop to doff. I would get tired of that, I know. I think I could get the mechanic to fix them so they will not pop off so much." Well, they did bother the tender some, especially when he was talking to somebody.

The superintendent came along and Newman called him back to the side of the machines, and showed him the steam regulating levers, and said, "See, all these weights are on this bottom lever; consequently, when the machines are slowed down or stopped, there is nothing to cut any steam off, and when these places in the warps hit the looms, they will not weave good at all. You see, it is just baked. Bone dry. Now, I suggest that we get the mechanic to put a rod about six inches along in places of the set-screw on this top lever; then put our weights on the top lever, and when the machines are slowed or stopped the steam will be cut off and the warps will then be like the coffee you have for breakfast—good to the last drop."

Well, sir, Newman got the confidence of the old man right there and they had the mechanic to fix the levers. And the slasher tender was won over, too, after he saw how it worked. And where he had been running with from twelve to sixteen pounds of steam, Newman now had him running with from three to six pounds.

And another thing. Newman had found that one of the slashers was stretching the yarn too much. He called the attention of the tender to that, but the tender had an alibi: he just had to run it tight, or it would slip on the cylinders. Newman had the mechanic to overhaul that machine, and he found that some of the guide roll bearings were worn, some left-hand bearings on the right hand side, with the oil holes on the bottom. Well, sir, when Newman got through with those slashers, he had also won the confidence of that slasher tender. And he had also won the old man's confidence, and that is the reason the old man didn't raise cain about the forty thousand pound production. He knew it would pick up now.

The carding and spinning departments had been stopping off on Friday afternoon for some time. Newman knew now that he would soon have them running on Saturday morning, but he kept quiet about it. He went about his work in an unconcerned sort of a way, and you wouldn't think he was boss weaver. One day, the second week he was there, I think it was, I was putting a new shuttle feeler on, and he came up to me and said, "I just want to tell you how I learned to set one of those things up," and he smiled and went about it like it was kind of a joke on himself. He went ahead to explain that he accidentally broke one once by pulling the lay to front center with the shuttle far enough out of the box that it came in contact with the point of the feeler. He said he had always before set them up so they would cut and hold the filling and had not given any thought to anything else, that was the way he was taught. He said he learned, when he broke that one, to set it to do the filling cutting act and at the same time to be sure that it came back far enough when at rest, so that when the lay was on front center, he would push the shuttle out of the box

and see that he had an eighth of an inch between the shuttle and the point of the feeler, and he said that stopped his shuttle feeler trouble.

Well, sir, that was a new one on me. And he told me just like he thought I knew all about setting one. I didn't let on though, and I got over my job as soon as I could and set my feelers right. And I went around and showed the other boys how to do it, too. We had been having a lot of shuttle feeler breaking, but you know, Jack, that one thing stopped it. Newman just played a trick on us. I know now that he knew we didn't know how to do it, but all of us thought then that he thought we all knew how to set them, and we just went right into it and set them all up right so he would not catch us in ignorance.

He did me the same way about a shuttle turning half over in the box. He saw the loom when I started to work on it, but he didn't say anything then. He came back about the time I got it fixed and told me how he was stuck on a job like that one time. He said he had noticed that the shuttle was worn a little on top, where it had rubbed on the top part of the back box plate, and he had looked over his parallel and picker, and everything seemed to be all right, but it kept worrying him a great deal.

He said he couldn't find out what was causing that shuttle to be worn like that, then one day he got to watching the parallel as the loom was running. He couldn't see much about it with the eye so he took a match stem and held it under the parallel shoe right at the picker stick, and the parallel didn't touch the match stem. He tried it on another one and it mashed the match stem flat. He said he looked at the parallel tongue then, and found it worn considerably, so he changed that and had no more trouble with that loom. But, he said, he had some more looms that would bang off every once in a while and he couldn't find out what was wrong with them until he had made this parallel discovery. He said he then found the shuttles marked on top, but some of the parallels were worn scarcely at all, so he had about decided he hadn't discovered anything after all. Then he thought about oil, and he got a can of oil and oiled these parallels and Eureka! he had found it.

Well, sir, I was afraid all the time he was talking to me; I was afraid that doggone shuttle would turn over again before he got away, and I guess he was afraid of the same thing, for he went on as soon as he finished telling me how ignorant he had been and the methods he applied. Well, I got right down on that loom and I found just what he had found on his looms. I applied the remedies he had applied and cured my trouble, and then I helped the other boys, and you should have seen our jobs come out of the kinks.

That's the kind of a guy Newman was. He could tell you things that you didn't know, and make you feel so little at not knowing, that you were ashamed to confess your ignorance. And he could make it so plain you could lay your finger right on it and wonder why you hadn't ever thought of that before.

We were having trouble with those sliding filling feelers. The bobbins would run empty, and sometimes we would find mis-picks caused by that. He told us our filling stop motion cams might be set too early. He said they ought to be set so they would be just ready to begin to raise the cam follower when the lay was on front center; and that didn't mean for the cam to already be raising it, *but just ready to start raising.*

Well, sir, our production just kept climbing right on up, and it didn't look like anybody was putting on any special effort, either. The warps were running like they were greased. The weavers were sitting down watching their looms run nearly half the time. And how everybody did talk about that man! Everybody had something good to say about him. He was such a nice, genteel fellow. And he always had a smile ready to crack.

Well, that's a long way around to it, but then is when I began to want to be a boss weaver. I just thought if I knew as much and could run my job with the ease that he did, and could command half the respect that he did, I would be about the happiest man in existence.

Well, in a few weeks they needed a second hand in the spinning department, and as the second hand in the weave room had worked a lot in the spinning end, and the superintendent wanted to put him back because he was such a hustler, Newman let them have him and promoted me to second hand. I think that was about the greatest thrill I ever had. A second hand to a man like that!

He seemed to take a special delight in training me. He had no secrets of the job to keep from anyone. After our production got so high that it didn't look like it was possible to go higher, he got to figuring one day. We did not have pick counters on the looms, the weavers were paid by the cut. It was possible to get eight cuts per loom per week, and we were not quite getting that.

Well, Newman figured out a schedule that showed just what time every cut of cloth had to come off during the week in order to get the eighth cut off at twelve o'clock on Saturday. Everybody took right to that, and we had the schedules tacked up on every section. And if a warp ran out, or a loom needed repairing with the cloth doffing close to this schedule hour, the fixer gave that loom preference. If any loom had to wait for anything it was a loom that had time to wait. That little stunt put our production to the extreme limit, and we got the eight cuts per loom every week, too.

When Newman got the superintendent's job at another mill, I was promoted to overseer of weaving.

So that is how I came to change my mind. And, Jack, I wasn't the only man to have a change of mind. The superintendent was talking to me just the other day, and he said, "Bob, I'll tell you, Newman opened my eyes. You know a man used to could start in with a set of ideas when he was young, and they would last him all through life; or it was better, we thought, to take up the set of ideas our fathers had used all of their lives. But times have changed, and it takes a new set of ideas quite often now to keep up with things. Newman came here with a new set of ideas, and time has proved his ideas were right. He had ideal ideas."

CURRENT TEXTILE TOPICS

Cotton industry keeps the pace

ONCE MORE demonstrating its response to broad national economic tendencies, cotton manufacturing ended the year 1940 on a high scale of activity. The Associated Press index of industry gave cotton in mid-December at 144.0 (basis on 1929-1930 as 100) against 135.4 a year previous. This level was achieved in a contra-seasonal rise. The general productive index at the same time was 119.5, against 112.1 in 1939.

From the civilian angle, as well as the defense program, the mills are starting a new year with definite promise of good business. The defense program has dominated business for six months and more. It will continue to do so in some industries for a matter of years, but not so much in textiles from the direct needs for military uses. The by-product of government spending, however, will be tremendous public and industrial spending on civilian lines.

Retail trade has been reflecting the impetus of an extraordinary industrial situation through the fall and early winter. The returns on Christmas trade were forecast to show a record. That time-honored barometer of all industry, steel manufacture, rose to new historic heights in volume of output the latter part of 1940 and was expanding its facilities for 1941. The underlying stimulus was defense, but civilian buying of autos, radios, refrigerators and other luxuries testified to a parallel civilian trade surge.

Temporary struggle to meet conditions

Mill men have been struggling since early fall with difficulties naturally arising from an exceptional, if not unprecedented, combination of demands. A suggestion of the problem is gained from the record business in cotton goods for 1940. We have no official figures at the time of writing, but estimates before the end of the year were around 10,000,000,000 yards of cloth, against the previous peak of 9,356,805,000 in 1937.

Since the movement in the first half of the year was spasmodic, this indicated record for 1940 is the more noteworthy. But it was productive of a congestion and the industry did well to obviate bottlenecks or plan soon to eliminate those that arose as mills worked to expedite the government business. By the middle of December, merchants were expressing the opinion that the general textile program for defense was well ahead of schedule and that the end of the fiscal year (June 30) would find the Army well supplied.

Something of a problem developed from defense orders that embraced lines of gray goods which ordinarily are in restricted production, at least relative to the major lines of printcloths and sheetings. Manufacturers from the first cooperated to serve the defense interests, however, and were quick to utilize the elasticity of their industry and adapt the machinery to emergency conditions.

Official watch on business

From all sides there has been a cautious attitude in business at the same time that expansion has moved ahead so fast. The bogey of inflation is constantly before the eyes of the country. Maybe that is the antidote for inflation. Beyond that is the modern economic-political regime which bespeaks caution. The watchful eye of official Washington is a deterrent to rampant speculation that leads to runaway markets of well known disastrous consequences.

Before the end of November government representatives were said to be exhibiting apprehension over the trend of forward buying and the steady accumulation of inventories by manufacturers. This was a fear of speculative accumulation which is the wonted means of starting an inflationary price spiral. But the course of commodity prices, very slow to change, seems to have been its own denial of undue buying.

If that were not proof enough, a report by the National Industrial Conference Board late in the year was significant. It showed that inventory accumulation was accelerated in September, but by October already had begun to lose its acceleration. This condition, applying to industry at large and not specifically to cotton manufacture, reflected a wholesome attitude among producers. Customers' orders were being watched with a discerning eye and speculation frowned on.

Buying for relief groups a factor

During the fall some buyers of cotton goods apparently did purchase above their actual needs. Part of their purchases was held for later delivery, however, and some diversion of goods helped to take care of other customers in need. This situation developed skepticism among some buyers about the tightness of the market that was being reported. It did not alter the true fact and reliable sellers were able to convince buyers that mills were genrally well sold through the first quarter of 1941.

• The above young ladies and men are employees of the Tallassee (Ala.) Mills, and took part in the gala celebration during the dedication of the new bridge over the Tallapoosa River at Tallassee. Their float represents the cotton-textile industry, which started in that section in 1844 with the building of a small mill having a thousand spindles and forty looms, from which has grown the present manufacturing plant of about 85,000 spindles and 1,800 looms. The original mill is still standing; it was used for a gun assembly plant during the War Between the States. Representing the King on the float is Dorman Moncrief with Miss Elizabeth Eubanks as queen. Maids are Misses Fannie Ruth Crockett, Minnie Pearl Pemberton, Ada Pearl Piper, Gwendolyn Fomby and Margaret Taunton. The driver is Bud Rushin, employee of Tallassee Mills for half a century.

• **George R. West, Jr.**, president of Dixie Mercerizing Company, Chattanooga, Tenn., was presented at Christmas with a bronze plaque, emblematic of the esteem and appreciation of the employees of the company. The plaque carries engraved facsimile signatures of employees with from 2 to 20 years of continuous service. The employees worked all year on the project, but its presentation at the annual gathering of the employees on December 25 came as a complete surprise to the officers. Mr. West has been with the company for 20 years. Starting in the mercerizing department, on graduation from Georgia Tech, he progressed through the stages of assistant superintendent, superintendent and general manager until 1934, when he became president. He is shown, with Mrs. West, viewing the plaque in the above photograph.

Not only the buying for defense, but that of relief organizations has put an extra burden upon the cotton manufacturing industry. By mid-December, for example, Federal relief agencies had purchased tickings so heavily that most mills were sold on production through March and prices were strong. Red Cross and British relief groups were heavy purchasers of flannels. Their buying absorbed the usual seasonal carry-over and cut deeply into supplies of wholesalers.

December buying of regular trade sources for the most part was of the customary mild sort, except in some specialties which showed shortages. Demand covered a wide range of constructions, however, and a firm market obtained. Sales were reported to be based soundly upon indicated needs. Buyers as a rule were believed covered for some months, although the steady absorption of goods indicated possible necessity of persistent small replacement at least.

New England Mill Situation

COTTON manufacturers of the New England district came into the year with contracts for a wide variety of fine goods sufficient to keep machinery active through the first quarter. After a period of routine trading through December, moreover, they were looking for a new surge of buying consistent with the wave of broad business over the country.

Even before the middle of December most mills were unable to accept orders for delivery before February. Prices in every direction were strong, especially in certain weights that figured in Army contracts. Prices rose sharply early December on 136x60s, for example, when talk was heard of forthcoming orders for 8,000,000 pairs of Army underwear shorts.

Cotton consumption in New England reached 83,069 bales in November, the latest figures at hand. This total compared with 97,480 in the big movement of October and 88,932 in November of last year, when the first wartime boom was in full swing.

All of the six New England States had a gain in the big month of October over the same time in 1939. The total of 97,480 bales was an increase of 34.8 per cent over the 72,477 bales of September and 12.6 per cent over the 86,583 bales for October of 1939.

Mills rewarded for new policy

We have several times mentioned the soundness of policy by many New England mills in recent seasons, under which operations are measured by varying conditions and changes in demand. Recent months have given evidence that quick rewards have been reaped from the pick-up of business. Significantly, the year-end textile review of Scheuer & Company says:

"Combed cotton producers profited from past errors of merchandising judgment with the result that, with few exceptions, prices did not decline to the levels of 1939; this to the great benefit of all finished goods handlers of these products."

By late fall, as cited in a monthly letter of the First National Bank of Boston, cloth prices were "holding steady at the best levels since last January, due to the healthy condition of mill inventories." This authority expressed a cautious attitude toward business toward spring, however, "since the current spurt in mill activity started from an abnormally high base."

Shipping, labor problems faced

Defense measures which promoted the broad forward movement in cotton goods also brought new problems for the mills of New England before the end of last year. One of these was threatened elimination of shipments of cotton by water to Boston and New Bedford. Another was the serious matter of migration of skilled help to other industries.

Higher costs for transportation of cotton were indicated when the Southern Pacific-Morgan Line announced plans to abandon the ports mentioned. The line had been handling 90 per cent of the raw staple from Gulf ports to New England. This was the subject of a protest to the Defense Commission not only from the angle of costs but as a source of delay to the government orders because of extra handling of cotton under transshipment from New York.

Cotton mills of New England reflect only moderately the defense program through their contracts, but this district is broadly active on government business of other sorts with a peculiar repercussion upon textile manufacturers. Employers have been less concerned over likely drives of unions for a higher wage basis than over the competition from such industries as the metal trades and shipyards for skilled workers.

Big orders by such industries and the imperative need for quick expansion in production have lured workers away from other lines of activity. The proximity of mill help made them subject to pressure. This demand and the likelihood of union agitation for higher scales led mills before the end of 1939 to invoke contract clauses on goods covering possible higher costs in production.

Notes of mill activities north

A new agreement between the Naumkeag Steam Cotton Company of Salem, Mass., and the Textile Workers Union of America, CIO, covering 3,000 workers, was recently completed. It runs for two years. An interesting clause, under present conditions, is time-and-a-half for all work performed on Saturday, Sunday or holidays.

During the last fiscal year of Wamsutta Mills, New Bedford, $64,000 was expended for new machinery and improvements. The older mills, Nos. 1, 2 and 3, were vacated. Machinery and equipment were concentrated in the more modern units, to achieve the objectives of increasing efficiency and reducing costs.

"THE SITUATION" as seen Across an Executive's Desk

December 18, 1940

IN AN ADVANCING index of industrial activity (Associated Press) which rose from 118.5 to 119.5, a new high for the defense drive, the biggest gain this past month was in cotton manufacturing.

Settling down to work on a huge backlog of Government and civilian orders, mills boosted output contrary to the normal mid-December trend. And prospects continue that cotton mill consumption of raw cotton will set a new high record during the current season. The total cotton consumption in the United States for the cotton year, July 1940 to July 1941 is expected to exceed 8,000,000 bales under the stimulus of large Government purchases of cotton textiles for defense and the prospective high level of industrial production and increased employment and payrolls. But on the other hand, world consumption of both American and foreign cotton may be the smallest in a decade. This of course is due to the reduced industrial activity in foreign countries now engaged in war.

Cotton in National Defense

Actually the United States cotton mill situation is excellent for the time being. The mills are running at an unusual high clip and while sales of unfinished cotton cloth and yarn for commercial use have been moderately active, the stimulus of defense buying and large backlogs of unfilled orders are keeping the mills busy. It is reported that cotton textile merchants expect cloth production in 1940 to total the largest production in the history of the business with approximately 9½ billion square yards compared to 8,800,000,000 in 1939 and the previous high record of 9,360,000,000 in 1937. The Census Bureau reported that cotton consumption during November totalled 744,008 bales compared to 770,702 bales in October and 718,719 bales in November last year. And it is to be expected that the December figures will exceed November's by considerable baleage.

Inactive spindles in the cotton-textile industry are fewer today than at any time since 1923 and mills are running extra shifts and over-time and squeezing out production in every conceivable way. Of course the assumption is that unless the industry exercises considerably more restraint than it is in the habit of doing, an expansion of both spindles and looms will soon be planned. It behooves every sane and level headed person interested in the cotton-textile industry to fight such a move. It is simply the forerunner of a debacle more complete than any known before, because this prosperity which seems so pleasant now can leave us, and will leave us, with a terrible hangover unless caution is encouraged.

There are several angles to defense purchases in cotton textiles which already seem to be creating certain bottlenecks. One of these is in the supply of long staple cotton, both Peeler and American Egyptian staples. Procurement requirements specify high breaking strength and long staples for vast quantities of their goods. The growing shortage for some years of long staple cottons due to curtailed acreage now proves to be very serious inasmuch as planters of cotton find there is an acute shortage of long staple seed for the '41 crop. Of course without long staple seed there will still remain a shortage in the staple harvest. This will probably create a scramble for the cotton and a drastic rise in the basis.

Certificate Plan

One of the most dangerous factors in cotton prices will be the efforts of the Department of Agriculture to impose upon the industry the Certificate Plan, suggested last year and discarded then, but brought out again for its annual parade. According to the new Secretary of Agriculture, there are only three ways to insure the farmer his usual benefits: A fixed price set by the Government; a high loan—12 to 15 cents a pound; or the Certificate Plan. And the Certificate Plan is simply a rose by another name. It is the old processing tax dolled up in a new hat. The price of the certificate which they wish to be a flexible one based on parity would approximate 7 cents a pound. If the parity price for cotton goes up the certificate price will of course go even higher. On the present market basis the manufacturers will be paying a 6 cents a pound tax on a 10 cents a pound product or a minimum of $30.00 a bale extra cost added to their cost of raw material. There is tremendous political pressure which will probably be attached to this plan, and only through opposing political pressure can it be defeated. But can you imagine anything more horrible in the face of rising costs of living than to have cotton goods, which clothe the poorer element and the laboring classes, almost doubled in cost due to a tax to benefit the farmer?

As we said previously, the Secretary of Agriculture submits that there are only three ways to finance the farmer's benefit program. Somehow in the shuffle everyone has overlooked the possibility of the old Domestic Allotment program proposed by a Congressman some 10 years ago. While the Domestic Allotment plan itself is not completely desirable, it is a great improvement on either of the three plans outlined by the Secretary of Agriculture inasmuch as it raises revenue for the farmer but does not tax the mill nor does it threaten to put the cotton shipper out of business.

Textiles in Court

Two important cases were finally brought to trial: the Print Cloth Case (see page 77, December issue) and the Opp Mills Case. The Opp Mills Case, as you know, had to do with the constitutionality of the Wage-Hour Act. The brief filed with the United States Supreme Court by the Opp Cotton Mills, Inc. and 10 other cotton mills of the South held that enforcement of a Federal Wage-Hour order fixing a minimum wage of 32½ cents an hour for textile workers would mean the undoing of a good percentage of the small mills of the South. In part, the brief said:

"It is not charged that the South has been party to any 'sweat-shop' conditions or is 'chiseling' in any degree. The South simply has not yet outgrown its industrial swaddling clothes. It has been engaged in the process of learning to crawl, in order that it may, in due time, be able to walk—a process which is slow and tedious, but one which is prescribed by the inexorable laws of life.

"Wages in southern mills have been increasing with a fine speed consistent with healthy growth. While wages were showing an increase in the South of 34 per cent in the 10-year period preceding 1938, those in the North were increasing 13 per cent. The South is no more hostile to high wages than the North. In the vicissitudes of time a heavy hand has been laid on its development, bringing about conditions entirely different from those in other parts of the country. Wise men will accept the situation as it is, make a true appraisal of it, and suit their action to the inexorable rules of development and growth."

The Opp Mills asked that the Court set aside the wage order put into effect October 24, 1939.

On the other hand, Francis Biddle, Solicitor General, filed a brief for the Government contending that the Act which increased the pay of 175,000 cotton mill workers is constitutional. Solicitor General Biddle defended the constitutionality of the Act by reference to the recently filed brief in the United States of America versus F. W. Darby Lumber Company in which constitutionality under the commerce clause is supported as follows:

"The Fair Labor Standards Act is a valid exercise of the commerce power of Congress. This conclusion is required both by the character of the economic problem, as measured against the board purpose of the commerce clause, and by the decisions of this Court which sanction the particular provisions of the act here attacked.

"State legislators, congressional committees, Federal commissions, and businessmen over a long period of time have realized

that no state, acting alone, could require labor standards substantially higher than those obtaining in other states whose producers and manufacturers competed in the interstate market.

"The reiterated conclusion that the individual states were helpless gained added force during the prolonged economic depression of the 1930's. The 30-hour work bills, the National Industrial Recovery Act, the textile and the coal bills, and the Fair Labor Standards Act itself each reflect a great volume of testimony adduced at congressional hearings and elsewhere to the effect that employers with lower labor standards possess an unfair advantage in interstate competition, and that only the National Government could deal with the problem.

"The congressional committees made specific findings which were embodied in the Fair Labor Standards act as the congressional judgment that low labor standards were detrimental to the health and efficiency of workers, caused the channels of interstate commerce to spread those labor conditions among the states, burdened interstate commerce, led to labor disputes obstructing that commerce, and constituted an unfair method of competition. Particularly when these findings accord with the facts of which this Court has already taken judicial notice, they are to be given conclusive weight."

Promotion Plans

One of the most successful cotton promotion periods has been during recent weeks when plans for a cotton Christmas have gone forward throughout many sections of the United States. These plans were promulgated by the Cotton-Textile Institute and the National Cotton Council and were undertaken locally by many civic clubs in various cities. Last week a meeting of the Cotton Consumption Council met in New Orleans and discussed and laid plans for National Cotton Week. Thus we see two naturals in cotton promotion work and decided headway being made in the Cotton-Textile Institute's goal of 10,000,000 bales a year consumption program.

New Textile Publications

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. New bulletin describing CSP power transformers, especially designed for unit substation service on municipal or industrial distribution systems. Dept. 8-N-48.

A new manual, "How to Design Fluorescent Lighting". Dept. 8-N-48.

Illustrated folder "Dirt is a Critical Hazzard" describing the application, operation and dirt removing qualities of the Precipitron electrostatic air cleaner.

The Elwell-Parker Electric Company, Cleveland, Ohio. Material handling literature on how to save money handling your loads into, through and out of the plant.

S. Blickman, Inc., Weehawken, N. J. Literture describing and illustrating stainless steel equipment for the processing industries.

E. I. Du Pont de Nemours & Co., Inc., Wilmington, Del. Technical service manual describing the varied uses of Avitex textile finishing agents.

Monsanto Chemical Company, St. Louis, Missouri. Two booklets, "Monsanto Chemicals of the Phosphate Division", and "The Aroclors", describing and giving physical properties of this group of products manufactured exclusively by Monsanto.

The Fairbanks Company, Boston, Mass. Literature descriptive of the new bronze gate valves, and the lift jack platform truck.

Allis-Chalmers Mfg. Co., Milwaukee, Wis. Bulletin B-6140 on the company's new all-in-one *electrifugal* pumps for 1 to 10 hp. inclusive for heads up to 160 feet.

Manning, Maxwell & Moore, Inc., Bridgeport, Conn. A new control catalog and text book combined, a complete control data book.

Hyatt Bearings Division, General Motors Sales Corp., Harrison, N. J. Bulletin for textile mills and machinery builders entitled "Do You Try to Keep Informed about the Advances being made in the Construction of Textile Machinery"

Cutler-Hammer, Inc., Milwaukee, Wis. Publication CS-151 on motor control engineering, Unitrol, a new motor control.

Calco Chemical Division, American Cyanamid Company, Bound Brook, N. J. Several publications covering the company's products, Calcomine Garnet B. Y. Conc for dyeing of cotton and rayon; Calcochrome Yellow CGW-100%, especially recommended for government shades on wool; technical bulletin No. 573 on "The Practical Art of Color Matching; Aerotex Cream No. 450, a condensed urea-formaldehyde resin; and Calco dyestuffs recommended for crease-proofing with Aerotex Cream No. 450.

Link-Belt Company, Chicago, Ill. 88-page data book No. 1775 on the company's line of anti-friction roller and ball bearings in all the various styles of housings.

The Conway Clutch Company, 1543 Queen City Ave., Cincinnati, Ohio. Bulletin L-29 on several series of stud drive disc clutches.

Pittsburgh Plate Glass Company, Columbia Chemical Division, 30 Rockefeller Plaza, New York City. Folder describing the Columbia fleet of caustic soda tank cars.

Rohm & Haas Company, 222 West Washington Square, Philadelphia, Pa. An illustrated 20-page booklet "RHoplex Resins for Fabric Finishing".

What the Southern Mills Are Doing

Burlington Mills Corporation, Greensboro, N. C., with several plants in North Carolina and Virginia, has filed registration for a preferred stock issue, and will use the net proceeds of $3,084,200 for additional capital and for improvements and additions to the company's plants, including looms, throwing spindles, hosiery machinery, mill village dwellings, and a new hosiery finishing plant.

Property of the Faytex Mills, Inc., Fayetteville, N. C., manufacturers of cotton yarns, has been sold by the trustee to W. R. McElroy of New York for $100,000. It is expected that the mill will resume operations within the next 60 days and 500 persons are expected to be employed.

The majority of the stock in the Ranlo (N. C.) Manufacturing Company, has been sold to Burlington Mills Corporation. Ranlo makes spun rayon and cotton and mixed yarn for the market, having about 20,000 spindles.

Davis Mills, Inc., Mt. Airy, N. C., has been granted a charter to manufacture yarn and all kinds of textile fabrics. The following are interested: R. B. Davis, Pilot Mountain, N. C.; A. A. Fowler, Mt. Airy, N. C.; and Ethel B. Fowler, Mt. Airy.

Prattville (Ala.) Cotton Mills, Inc., are operating under new ownership and management. Formerly the Bradford Mills, the property was acquired by Alexandjro Safie and sons of Central America.

Erlanger Cotton Mills and Nokomis Cotton Mills of Lexington, N. C., have been merged under the name of Erlanger Mills, Inc., with combined spindleage of 67,440 and 1,515 looms. E. P. Cofield is general manager.

The building program under consideration at the Avondale Mills of Alabama, with headquarters at Sylacauga, involves revamping and extending present dyehouse facilities at an estimated cost of $100,000.

J. M. Odell Manufacturing Company, Bynum, N. C., is building a hydroelectric power plant with hydraulic turbine and generator of 800 hp. to include switchboard room and other operating control facilities.

A. A. Whitener of the Rhodes-Whitener Yarn Mill, Taylorsville, N. C., has announced that they are planning to recondition this plant which was damaged to extent of $200,000 during the 1940 floods.

Mayo (S. C.) Mills, Inc., have installed 12 twisters, 24 spinning frames, and other frames are being converted to long draft as part of an expansion program.

An addition has been built to the No. 6 plant of the Cannon Mills Company at Concord, N. C., which is used to house 24 new looms.

The Lanett Division of the West Point Manufacturing Company, Lanett, Ala., is erecting a new $26,000 office building.

It is understood that a chenille plant to cost $100,000 will be erected at Cartersville, Ga., by B. J. Bandy of Dalton, Ga.

Rodman-Heath Cotton Mill, Waxhaw, N. C., will be taken over by Waxhaw Cotton Mills Company with authorized capital stock of $100,000.

It is reported that the Arkray plant of Textiles, Inc., Gastonia, N. C., will build a one-story addition, which will cost $25,000.

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COMMENT on the COTTON MARKET

New Orleans, December 16, 1940

THE effect of the small export movement, due to the European war and light shipments to Japan, was offset in a large measure by the free flow of new crop cotton into government holdings attracted by the loan, and by the continuance of large domestic consumption. In consequence the market ruled comparatively steady during the period, values showing little change compared with one month ago.

The government's annual cotton crop estimate, as of December 1, points to a production of 12,685,000 bales of 500 pounds gross weight, compared with 12,847,000 bales in November and last season's production of 11,817,000 bales. The somewhat smaller yield than previously predicted was attributed to unfavorable weather.

The indicated yield per acre was placed at 252.4 pounds, compared with 237.9 pounds last season, and the average weight of bales was given as 511.5 pounds.

The area left for harvest this season was estimated at 24,078,000 acres.

Returns to the Census Bureau show that 10,870,247 bales were ginned to December 1 versus 11,110,000 ginned to corresponding date last season. Since the crop is expected to be nearly 900,000 bales larger than last season's production, the light ginnings to December 1 are attributed largely to unfavorable weather.

For want of a much better foreign demand, due mainly to the European blockade and political economy in Japan, the surplus of the 1940 crop is rapidly coming under government control. Washington, as of December 1, stated that the Commodity Credit Corporation announced that loans on 1940 crop cotton through December 9 aggregated $114,921,048 on 2,384,000 bales.

As noted by returns to the Census Bureau, American spindles continued active during November, due largely to better domestic trade conditions and the filling of large government orders to meet defense requirements. These favorable domestic trade features are likely to last for a long time and may improve further as the five year program of the government gradually unfolds to build up the United States Army and Navy until they are strong enough to assure the safety of the nation. All of which means plenty of work and large consumption in many major industries of the country, in which activity the textile mills of the North and South will probably participate to a large extent.

Recently the Associated Press carried a story, which, in contrast to the war conditions in Europe and Asia, is cheerful: Clveeland, Ohio, Economist Leonard P. Ayres drew this picture of 1941 business prospects—

"A boom on its way.
Rises in the price of labor.
Advances in stocks but no big bull market.
'No inflationary increases in living costs.
Depression conditions in farm regions that depend upon exports."

Discussing the prospective boom, Colonel Ayres said: "It can last for a long time. We are going to have a boom because so much money is going to be spent so fast that the boom is inevitable."

Regarding the probability of a real or near depression persisting in agricultural regions which formerly sold important parts of their production to the countries of Europe, which means that the cotton farmers will likely suffer most because of the European blockade restricting exports of cotton, the government will likely continue to take care of the cotton farmer and other interests that may need assistance.

Washington advices of December 8 were to effect that another year of marketing and production control over cotton was assured as results from a grower referendum in 19 states piled up big pluralities for the agriculture department's quota system.

"The 1941 program is designed to limit plantings to 27,000,000 acres, the same as this year. Normally, that acreage would yield approximately 12,000,000 bales."

"The 1941 program faces the prospect of diminished exports and increasing surpluses. The war abroad has reduced the already dwindled exports market to the lowest point since the war between the states."

CENSUS REPORT,

United States—Bales—	This Season	Last Season
Consumption of lint in Cotton-Growing States, Nov.	639,000	610,000
Consumption of lint in New England States, Nov.	83,000	89,000
Consumption of lint in All Other States, Nov.	22,000	20,000
Consumption of lint in United States, Nov.	744,000	719,000
Consumption of lint in Cotton-Growing States, 4 mos.	2,405,000	2,257,000
Consumption of lint in New England States, 4 mos.	326,000	326,000
Consumption of lint in All Other States, 4 mos.	78,000	77,000
Consumption of lint in United States, 4 mos.	2,809,000	2,660,000
Mill stocks, November 30	1,682,000	1,783,000
Stocks in public storage and at compresses, Nov. 30	14,727,000	15,484,000
Stocks in mills, public storage and compresses, Nov. 30	16,409,000	17,267,000
Stocks in mills, public storage and compresses, Oct. 31	15,202,000	16,963,000
Active spindles in Cotton-Growing States, Nov.	17,153,000	17,107,000
Active spindles in New England States, Nov.	4,910,000	5,056,000
Active spindles in All Other States, Nov.	623,000	622,000
Active spindles in the United States, Nov.	22,686,000	22,785,000
Active spindles in the United States, Oct.	22,457,000	22,668,000

AMERICAN COTTON—CONSOLIDATED MOVEMENT

(Figures of New Orleans Cotton Exchange)

August 1 to December 16—Bales—	This Season	Last Season
Receipts at United States ports	2,176,000	4,439,000
Exports to Great Britain	292,000	881,000
Exports to France		318,000
Exports to the Continent	214,000	1,052,000
Exports to Central and South America	10,000	30,000
Exports to the Orient	38,000	538,000
Total exports from United States	555,000	2,829,000
Total stock in New Orleans, December 16	529,000	775,000
Stock at all U. S ports, December 16	3,360,000	3,231,000

Additional Personals

(*See also page* 92.)

GEORGE H. EYPPER has resigned as vice-president of Deering, Milliken & Company after 51 years of service, but continues as a director of the company. WILLIAM E. WINCHESTER, for the past 35 years connected with this company, has also retired as vice-president of the company and has given up his active relationships with many other mills in this country, except the Lockwood Company, Waterville, Me.

H. A. HATCH of New York succeeds W. E. WINCHESTER as president of Monarch Mills, Union and Lockhart, S. C., and D. W. Anderson succeeds Mr. Winchester as president of the Gainesville (Ga.) Cotton Mills.

Obituary

NATHANIEL B. DIAL, 78, former U. S. Senator, and president of Laurens (S. C.) Cotton Mills, and a director of Ware Shoals (S.C.) Manufacturing Company and other industrial concerns, passed away December 11 at the age of 78.

CLARE H. DRAPER, SR., retired vice-president of Draper Corporation, passed away the latter part of November. His son, CLARE H. DRAPER, JR., is manager of the Draper Corporation's office in Spartanburg, S. C.

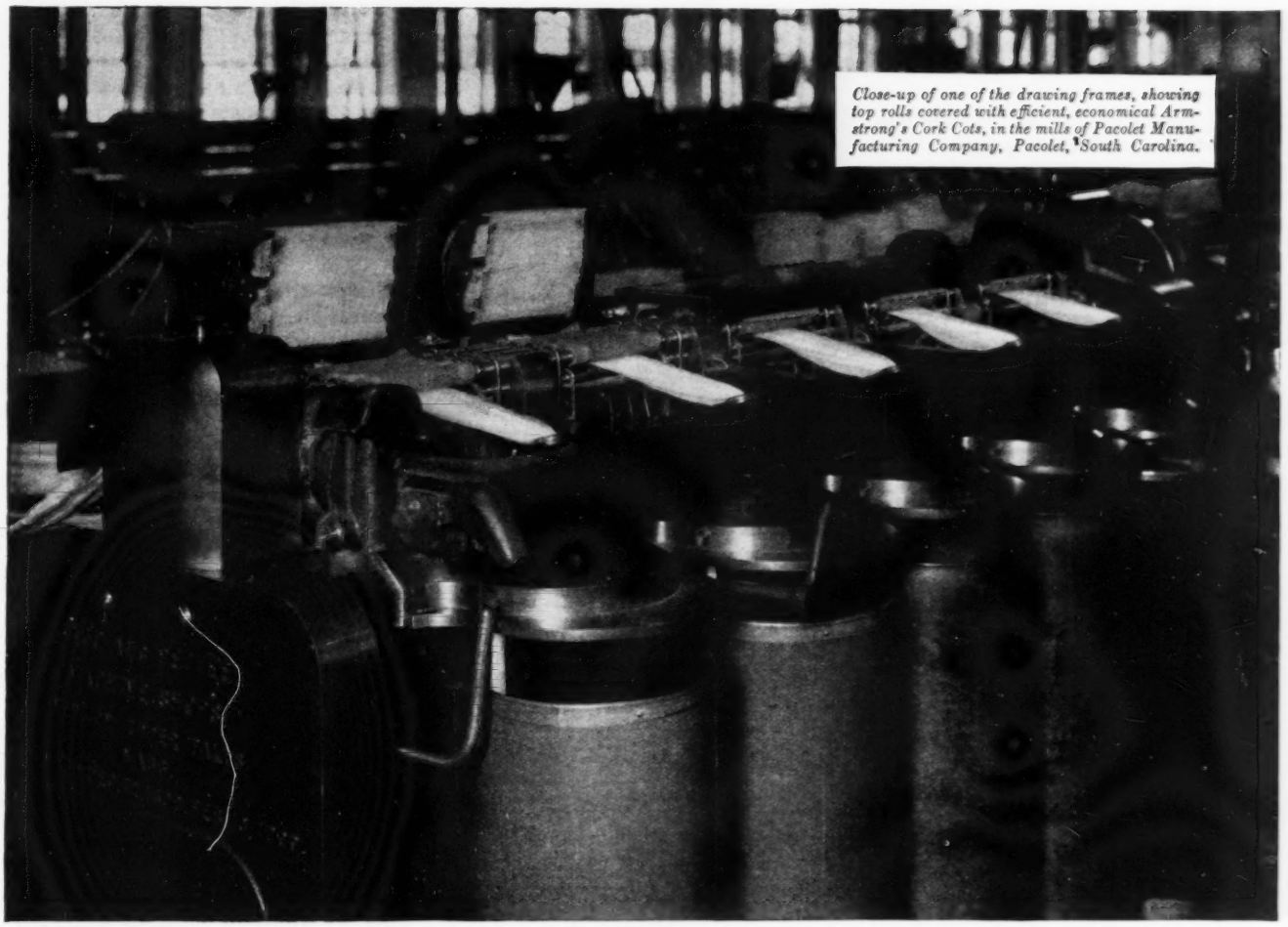
DANA H. ALEXANDER, 42, sales representative for the Clinton Company, starch manufacturers, died suddenly November 28 of a heart attack.

LEMUEL LESTER SELF, preident of Carlton Yarn Mill and Nuway Spinning Company, Inc., Cherryville, N. C., passed away recently.

ERNEST M. TORBET, 49, general manager of Propper-McCallum Hosiery Company, Northampton, Mass., passed away December 2 of a heart attack.

ARTHUR DAVIS WEBSTER, overseer of the Holt-Williamson Cotton Mill, Fayetteville, N. C., passed away recently.

JOSEPH GERLI, president of E. Gerli & Company, New York, passed away November 22 at the age of 75.



Close-up of one of the drawing frames, showing top rolls covered with efficient, economical Armstrong's Cork Cots, in the mills of Pacolet Manufacturing Company, Pacolet, South Carolina.

Take a tip from Pacolet Mills on how to reduce

DRAWING SLIVER VARIATION

LIKE hundreds of other mills, Pacolet Manufacturing Company have found that Armstrong's Cork Cots save them worry, help them turn out better products. Since equipping their drawing frames with these *modern* roll coverings, they have substantially reduced the variation in their drawing sliver and have also improved the running of their work all the way through the card and spinning rooms.

The higher coefficient of friction of cork assures more strength and uniformity of yarn—less eyebrowing. These highly efficient cots also minimize clearer waste, diminish the frequency of top roll laps, and reduce end breakage.

It's simple and inexpensive to change over to Armstrong's Cork Cots. Their initial cost is on a par with that of other roll coverings, and you start saving immediately with their quicker, cheaper assembly. Furthermore, they give you *extra-long service;* for not only are they more durable, but you can rebuff them—three or four times—at a unit cost of about ½¢! An Armstrong representative will be glad to show you production figures and savings of mills spinning your range of numbers on cork. Armstrong Cork Company, Industrial Division, Textile Products Section, 923 Arch Street, Lancaster, Pennsylvania.

ARMSTRONG'S *Extra Cushion* SEAMLESS CORK COTS

CORK PRODUCTS SINCE 1860

Textile and Other Purchasing Agents Hold Meeting in Charlotte

THE annual meeting of the Carolinas-Virginia Purchasing Agents Association, an affiliate of the National Association of Purchasing Agents, Inc., held a two-day meeting on December 6 and 7 at the Hotel Charlotte, Charlotte, N. C. A number of textile mill purchasing agents attended the conference.

At the first session discussion was held on the current situation on various commodities, such as coal, lumber, non-ferrous metals, steel, textiles, industrial chemicals, paper and shipping containers. Following this, the purchasing agents conducted an open forum and round-table discussion on the problems arising in purchasing, and their solution.

A banquet was held Friday night with Dr. Julian S. Miller, editor, *The Charlotte Observer*, as the main speaker. Dr. Miller covered the foreign situation and America's interest in the European war. The Saturday morning session was closed and consisted mainly of business affecting the association.

The following addresses were made at the final session: "Election's Over; So What?" by J. W. Knowlton, Charlotte; "Importance of Relations with Salesmen in the Relationship between Buyer and Seller," by George A. Howell, Jr., purchasing agent of the Rock Hill (S. C.) Printing and Finishing Company; and "Should the Marketers of Industrial Goods Advertise to Purchasing Agents?" by W. Z. Betts, with discussion being led on this subject by J. M. Geer, purchasing agent of Marshall Field & Company, Spray, N. C. After each address there was discussion from the floor.

Concensus of opinion was that industrial production will continue at a rapid pace; the demand for commodities cannot be satisfied for months to come, and it is not a question of prices so much as ability to secure deliveries. Fear was also expressed as to the effects of further government control and price-fixing.

Rayon Yarn Shipments Continue at High Level

Deliveries of rayon yarn to domestic mills in November totaled 35,000,000 pounds, as compared with 36,900,000 pounds delivered in October and 33,300,000 pounds in November 1939, according to the *Rayon Organon*, published by the Textile Economics Bureau.

Rayon yarn deliveries during the first eleven months of 1940 have amounted to 355,100,000 pounds as against 330,500,000 pounds in the same period of 1939, representing an increase of 7 per cent.

Stocks held by producers at the end of November amounted to only 6,200,000 pounds. Thus stocks continue to be nominal.

Purchases of textile products for the United States Army over the past few months have become a most important factor in the trade, states the *Organon*. These purchases, it is pointed out, have resulted in an increase of 32 per cent in the consumption of wool over and above the normal civilian demand, while cotton consumption has increased by about 4 per cent monthly.

The publication presents a compilation of textile products purchased by the United States Army for its own use and for the CCC during the period from January 1 to November 30, 1940. Purchases for the Navy, Marines, Air Corps, and other government agencies are not included.

Inasmuch as the Army is constantly making new purchases and inviting bids for new supplies, no claim is made as to exact accuracy or completeness. However, while the information has been collected from reliable sources, the showing is an impressive one.

While the Army's cotton goods purchases have added only about 4 per cent to the monthly raw cotton consumption, the special nature of these purchases, especially the heavy cotton goods and combed yarn goods, have resulted in price increases. In fact, the prices of all raw cotton and cotton goods are advancing, in part due to special circumstances, including "unnecessarily high quality specifications" of the Army and the demand for prompt deliveries. The Army's sizable purchases of wool products has also upped the price of wool and this price increase has been, or will be, reflected at retail.

◆

Drive to Increase Cotton Consumption

Plans have been made to coordinate the promotion activities of the Cotton-Textile Institute and the National Cotton Council, with the former handling the textile industry and the latter the raw cotton industry. Domestic consumption now is slightly less than eight million bales and the export outlook not in excess of two million bales, so the promotion program is to increase domestic consumption by more than two and a half million bales if equality in supply is to be maintained. The Institute's program is financed by voluntary contributions by mills of two cents per bale on their consumption and the Council's by voluntary contributions of five cents a bale by raw cotton interests.

◆

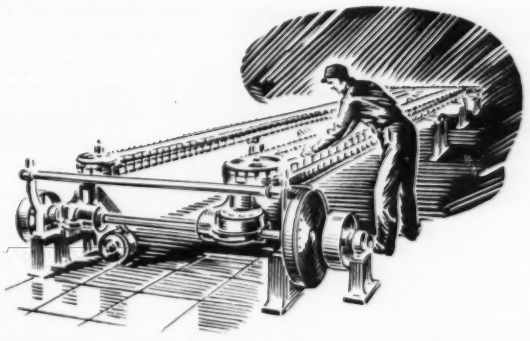
Willcox & Gibbs Moves to New Address After 81 Years on Broadway

Willcox & Gibbs Sewing Machine Company has recently moved to new modern quarters at 214 West 39th Street, New York City, after spending the entire 81 years of the company's existence at 658 Broadway. These new quarters provide two floors and basement space for executive offices, showrooms, service and stock. The recent change of address places the company in the heart of the garment area, and also is more available to out of town buyers. It was announced that the manufacture of W & G machines will be continued by the Brown & Sharpe Mfg. Company of Providence, and the Metropolitan sewing machine line will be produced as heretofore at the company's plant in Nyack, N. Y.

The company has always designed production machines for the manufacture of many different types of garments made under government specifications for the armed forces of the nation, dating back to the War Between the States when the single-thread chainstitch machine was used in making Union Army uniforms, and during the Spanish-American War when Army garments were made. The Flatlock machine is said to have revolutionized production methods in the knit goods industry shortly prior to the outbreak of the first World War.

The added impetus given to the production of textiles, particularly those articles manufactured from knitted fabrics by the government is present preparedness program, has placed emphasis on the ability of the sewing machine industry to meet the exigencies of the program. In nearly every instance and particularly with regard to knit underwear, the company's machines meet the requirements of government specifications.

The first machine was the single-thread chainstitch machine and was patented in 1857 by James E. A. Gibbs. In partnership with Charles H. Willcox, Mr. Gibbs was responsible for a long line of important developments and improvements in sewing machine technique. In 1935 the company acquired the Metropolitan Sewing Machine Corporation, the staff of which worked in close cooperation with Willcox & Gibbs' to effect substantial improvements in the former's machine. The Superlock is one of the recent advanced developments in sewing machines.



New Tenter gets orders that mill used to lose

"Costs were too high . . .

"Production was too low . . .

"We found that out on a couple of big orders—one we took and lost money on, and the other we lost because our price was too high.

"A few months ago, we purchased the latest-type Butterworth Automatic Anti-Friction Tentering Machine. We put the new Tenter in range by placing a starch mangle at the entering end and a winder at the delivery end.

"In a short time, the new Tenter was speeding up the finishing operation . . . increasing yardage . . . lowering the cost of production."

Outdated equipment in the wet end of textile finishing loses orders and profits for many an otherwise progressive mill.

Under present conditions, a new machine pays for itself two or three times as fast as it does under ordinary conditions. Growing realization of this fact is causing more and more mills to purchase new machines—for bleaching, boiling-out, drying, calendering and dyeing.

For more than 120 years, our entire time and effort have been devoted to promoting efficiency in every process of the wet end of textile finishing. We know all the small advantages in production costs which, collectively, make the difference between profit and loss.

Butterworth Engineers are constantly working with leading textile finishing plants—helping to achieve greater yardage, better finishes, higher speeds and lower production costs.

Let us work with you in determining whether modern Butterworth Machines or improved plant layout will help you to improve your competitive position. Write us fully about your problems.

H. W. BUTTERWORTH & SONS CO.
Phila., Pa., Serving the Textile Industry Since 1820.
Offices: Providence, R. I. and Charlotte, N. C. In Canada—W. J. Westaway Co., Hamilton, Ont.

***64%**

of equipment now in use in the wet end of textile finishing cannot operate at a profit in competition with modern machines.

*Proved by Research

Butterworth

TIMELY NEWS ITEMS with a TEXTILE SLANT

J. D. Walker, who for the past 10 years has been overseer of slashing at Pepperell Mfg. Company, Lindale, Ga., has resigned to become connected with Southern Sizing Co., Inc., Atlanta, Ga., in a sales and service

Mr. Walker

capacity. He will represent the company in the southern textile field, with headquarters in Atlanta. Mr. Walker is a graduate of Mercer University, and also was graduated in textiles at the Georgia School of Technology.

William G. Ware, formerly connected with the dyeing department of Mooresville (N. C.) Cotton Mills, is now sales representative for the Myles Salt Company in the Charlotte territory, and is making his headquarters in the Johnson Building, Charlotte, N. C.

John Ekern Ott, who has been with the Acme Steel Company, Chicago, Ill., for 18 years, has been appointed manager of the Archer plant, where he is in charge of production, warehousing, shipping, maintenance and engineering, succeeding W. C. Childress, resigned.

Arthur W. Steudel has been elected president of Sherwin-Williams Company, succeeding George A. Martin, who is now chairman of the board of directors. Mr. Steudel has been vice president and general manager and now becomes the fourth president in the 74 years of existence of the company. Mr. Martin has long been recognized as dean of the paint industry.

Pittsburgh Plate Glass Company has announced that the sale of chemicals manufactured by the company will be handled directly by its Columbia Chemical Division, rather than through its subsidiary, Columbia Alkali Corporation. The personnel and headquarters of sales executives and the sales organization will remain unchanged.

Machinery Exchange, 224 West Main St., Gastonia, N. C., is a new clearing house organization to buy or sell or locate certain items, and to dispose of machinery and equipment. Items wanted or items for sale will be listed at regular intervals.

Crystamet is the new name of the pentahydrate sodium metasilicate manufactured by Cowles Detergent Company, Cleveland, Ohio. This product formerly was called Escomet. The quality, prices and package remain the same.

Sterling Electric Motors, Inc., has established a New York office at 11 West 42nd St., where Allen A. Adams, eastern manager, makes his headquarters.

Todd-Keesee is the name of a new leather belting manufacturing company in Gastonia, N. C. This concern has installed the latest types of belting machinery and will manufacture a general line of leather belting, including winder and comber belts, pickers, checkstraps, etc. Floyd C. Todd of Gastonia is president and George Keesee, formerly connected with one of the oldest belting firms in the country, is secretary and assistant treasurer. B. F. Hatcher, associated with the Todd interests, is vice-president.

John E. Holt has become treasurer and director of Danielson Manufacturing Company, Danielson, Conn. Prior to hostilities abroad, Mr. Holt was general manager of European and Asiatic divisions of International Business Machines Corp., with headquarters at Geneva, Switzerland. For the last year he has been sales manager of this company in the United States.

Alfred L. Hutton, Jr., president of Hemphill Company, Pawtucket, R. I., manufacturers of Banner hosiery machines, has been elected president of the Association of Knitting, Braid-

Mr. Hutton

ing and Wire Covering Industries and Trades, succeeding the late Walter L. Toy, of Scott & Williams, Inc.

Onyx Oil & Chemical Company, 15 Exchange Place, Jersey City, N. J., has opened a new southern office at 121 West Third St., Charlotte, N. C. E. W. Klumph is in charge, and is assisted by Cliff Myers and Cliff Smith. This new office has enlarged facilities, and was necessitated by increased southern business.

Sorbtex Foundation, Richmond, Va., has announced that such synthetic fibers as nylon, vinyon and rayon feel and act like natural silk fibers after being processed in the Sorbtex Process. Certain features in the three named fibers that were objectionable to consumers have been removed, it is said, after treatment by the Sorbtex Process, which is said to emphasize the harmlessness of the process to the skin. The process is now being successfully applied to turkish towels, huck, crash, linen and part-linen towels, underwear and hosiery.

Gaylord Container Corporation, St. Louis, Mo., has announced plans for the construction of a factory at Oakland, Calif., to serve the rapidly growing business on the Pacific Coast. This project is part of a general expansion program under way to meet the increasing nationwide demand for the product. The new plant will be located on a 5-acre tract and will represent an investment of about $600,000.

• Left, John J. Kaufmann, president and general manager of Steel Heddle Mfg. Co., Philadelphia, and, right, Robert J. Freitag, secretary-treasurer and sales manager. These gentlemen were honor guests at a testimonial dinner given by the company's stockholders in December, as reported on page 82 of December "Cotton" . . . . . .

MAKE THIS TEST *Yourself*

WITH JOHNSON ELECTRIC MOTOR BEARINGS

76 pages packed with useful, informative bearing data — fully illustrated. Write for a copy of Catalogue 400.

● There is no proof quite so effective as a trial . . . right in your own shop. You select the conditions — pick out your toughest bearing application — and install Johnson Electric Motor Bearings. Then keep a record of the performance.

Johnson Electric Motor Bearings are easy to get . . . easy to install. Complete stocks are carried in every industrial center. Every bearing is completely machined — I.D.— O.D. and Ends. Flanges, oil holes, slots and grooves are all in accordance with the requirements of your motors. The special high lead alloy guarantees the utmost in performance.

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The MOST COMPLETE SLEEVE BEARING SERVICE in the world

JOHNSON BRONZE COMPANY

Sleeve BEARING HEADQUARTERS

530 SOUTH MILL STREET • NEW CASTLE, PA.

NEW EQUIPMENT and MATERIALS

General Purpose Induction Motors

Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., has announced new open-type sleeve-bearing squirrel-cage induction motors designed especially for general purpose drive applications such as machine tools, pumps, auxiliary drives, etc. These type CS motors are available in ratings from ½ to 5 horsepower, at speed from 875 to 3600 r.p.m., for operation on 110, 220, 440 and 550 volts, two and three phase ac. Rigid complete-cast frames maintain constant air-gap between stator and rotor, assuring high efficiency operation. New wire insulation gives maximum dielectric strength, toughness, and flexibility.

◆

Larger V*S Units

Reliance Electric & Engineering Company, 1088 Ivanhoe Road, Cleveland, Ohio, has announced three additional V*S units of 20, 25 and 30 hp. which extend the method of all-electric adjustable-speed drive to larger applications in the textile field. The same principle of speed control is used as in the other sizes, which range from one hp. upward. For the sake of compactness it has been mounted horizontally instead of vertically as in the smaller sizes. The speed adjuster and the buttons for starting and stopping the driving motor can be located anywhere on the machine the operator may find it most convenient to reach. The driving motor can be supplied in fan-cooled, splash-proof and explosion-proof types, and gearmotors may also be used. The motor can be started and stopped without interfering with the speed setting, and the speed can be changed while the motor is in operation.

◆

Process for Increasing Yarn Strength

Copeman Laboratories Company, Flint, Mich., have been granted a patent (through Dr. H. Y. Jennings) on a new method for treating yarns and threads to increase their tensile strength and to control their residual stretch (patent No. 2,220,958). The method essentially consists of two steps, the first being the stretching of the yarn or thread a predetermined amount so that tension will be distributed more evenly over the individual fibers or filaments composing it. The second step consists in fixing the yarn or threads permanently in this tensioned position by the use of a synthetic resin or other bonding agent. The permanent bonding agent coats or impregnates the individual fibers, thus substantially increasing the inherent strength of the tensioned yarn by binding the fibers to each other and reducing slippage. The patent will be licensed to the textile industry on a non-exclusive basis, through John A. Cairns & Co., 45 E. 17th St., New York City.

◆

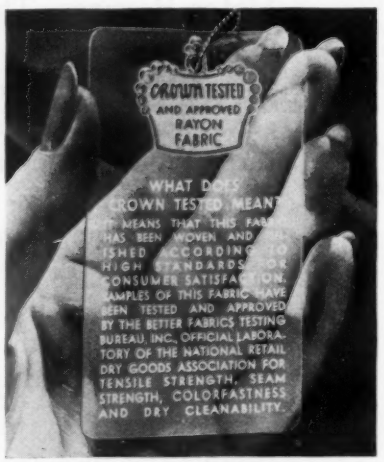
New Colors

Phoenix Color & Chemical Company, Inc., 24 Van Houten St., Paterson, N. J., has announced the following new products: Benzaphen Yellow 6GCW, a direct color which leaves acetate white; Phenaldehyde Black GR 200%, a direct color rendered extremely fast to washing by the usual method of formaldehyde aftertreatment; Benzaphen Diazo Red 5BL, a diazo dyestuff for dyeing rayon and cotton.

◆

1940 Annual Cotton Handbook

Comtelburo, Ltd., 11, Tokenhouse Yard, London, E.C.2, has published the 70th year of the Annual Cotton Handbook for daily cable records of American, East Indian and Egyptian crops, together with other market statistics.

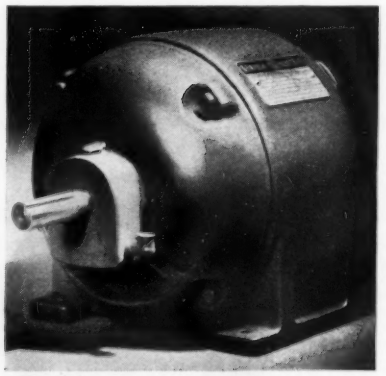


● The new transparent tag to identify "Crown Tested" rayon, which has been adopted by the American Viscose Corporation to label garments made from Crown Tested fabrics. It bears only essential information about the fabric, and its only embellishment is the golden crown and the slender golden cord on which it is suspended. The tag is constructed of transparent plastic material, and assumes the color of the garment.

Combination Oil-Immersed AC Starter; New Motor Announced

General Electric Company, Schenectady, N. Y., has developed a new oil-immersed combination ac starter for use in corrosive or hazardous gas locations, which features ease of installation and better protection against corrosion. The device is available in two forms, with or without a circuit breaker, depending upon the application. To facilitate installation, a one-piece cast iron head, used in both forms, permits conduit entrance from five directions. As protection against external corrosion, corrosion resistant metal is used for all exposed parts; a copper-bearing steel tank and the cast iron head provide additional protection. Where needed, the circuit breaker (of new type) is supplied, rated at 10,000 amperes interrupting capacity and specifically designed for operation under oil. For extra safety the handle of the circuit breaker is interlocked with the tank so that the breaker must be open before the tank can be lowered.

The company has also announced an entire line of new polyphase induction motors, in integral horsepower sizes to conform with new industrial trends, processes and practices. Known as the Tri-Clad motor, and representing one of the most extensive product changes



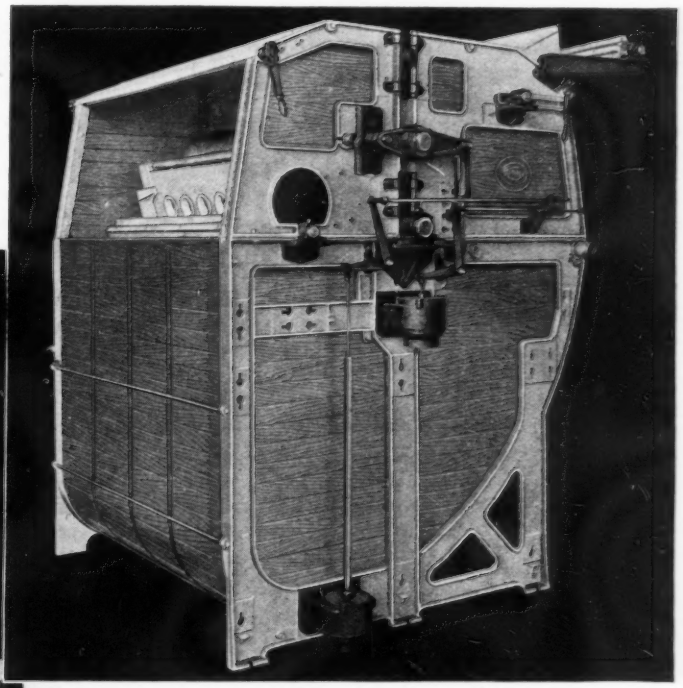
in the history of the company, it has called for many new methods in GE motor manufacturing. In all its ratings it features modern streamlined appearance; more complete protection; major advances in the insulation of current-carrying parts; and improved bearing design and lubricating arrangements. It has the cast-aluminum rotor, pressure-relief system of greasing for ball bearing motors, and other proven features. It makes use of a cast iron frame of the box type and end shields are designed to match the frame and are enclosed above the centerline. The new type insulation, dust-tight bearings, and the use of Glyptal in the priming and finishing paints armor it against the harmful agents, according to the company.

These are the

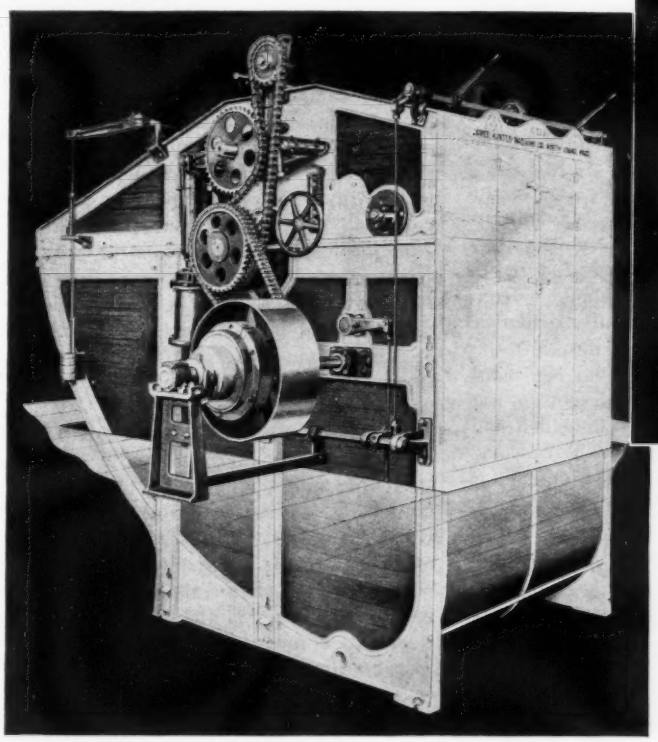
FULLING and WASHING UNITS

for UNIVERSAL work

MODEL "GK" WASHER



MODEL No. 26 FULLING MILL



JAMES HUNTER MACHINE CO. Hunter NORTH ADAMS, MASS.

For the mills now producing heavy army fabrics, tough fulling low grade fabrics, or 7-ounce flannels, the two units pictured above—the Hunter No. 26 Stainless Steel Fulling Mill and GK Cloth Washer—represent not only the most modern equipment obtainable, but machines to do the scouring and fulling job quicker and easier.

For example, the No. 26 Mill is equipped with hydraulic tension for top roll, stainless steel linings, guides, stop motion, and crimping boxes, and will give you twice to four times the capacity of your older Mills with far more uniform results. In fact, production is often increased to a point where twice the load is handled in two-thirds or even half the usual time.

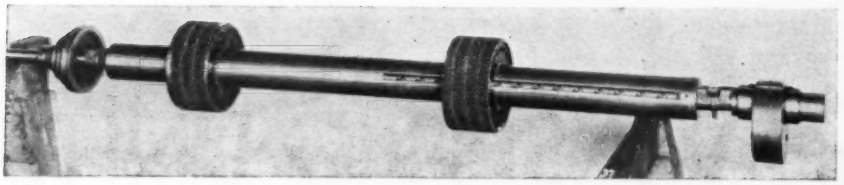
The GK Washer is the most modern available rope type scourer. Equipped with new principle of applying water to the goods, new type suds box and gates, rubber rolls, and roller bearings throughout, it will cut your overall scouring and rinsing time by as much as twenty minutes.

Full details on both these modern machines are completely described in up-to-date bulletins, and it will not obligate you to write for a copy. Send for them today.

JAMES HUNTER MACHINE COMPANY

SINCE 1847 NORTH ADAMS, MASSACHUSETTS

Western Representative: E. G. Paules, 343 Bendix Building, Los Angeles, California



● The double-wheel traverse grinder that has been developed for mills doing heavy carding. The overlap of the wheels has been perfected so that exactly the same amount of grinding is evidenced over the entire 40 or 45-inch cylinder. The slot is cut the same length on each side of the shell and the dogs and dogholders in the traverse wheels are operating opposite each other, tending thereby to give good counter-balancing. It is said that this double-wheel traverse grinder can be set lightly and do the required amount of grinding in the allowed time. Manufactured by B. S. Roy & Son Company, Greenville, S. C.

Fluorescent Lamps by GE

General Electric's lamp department, Nela Park, Cleveland, Ohio, has made available three new fluorescent lamps, a 100-watt 60-inch Mazda F; a little 6-watt 9-inch Mazda F; and the new soft-white F that may be had in several sizes and lengths. The 100-watt lamps employ T-17 tubular bulb 2⅛ inches in diameter, and are designed for general lighting needs. Smallest of all the company's Mazda F lamps is the new 6-watt 9-inch lamp which employs a T-5 round bulb and miniature bipin bases. It permits of fluorescence in many places where larger lamps are not altogether practical.

◆

Book on Preventing Sabotage

"Sabotage—How to Guard Against It" is the name of a new book published by the National Foremen's Institute, Inc., New York City, written by Harry Desmond Farren, author and newspaperman. The author portrays the operations of saboteurs during World War I and the highlights of the sabotage cases during World War II. It is excellent reading and shows ways for industrial concerns to guard against sabotage. Price $1.00.

◆

The Universal Automatic High-Speed Bobbin Winder

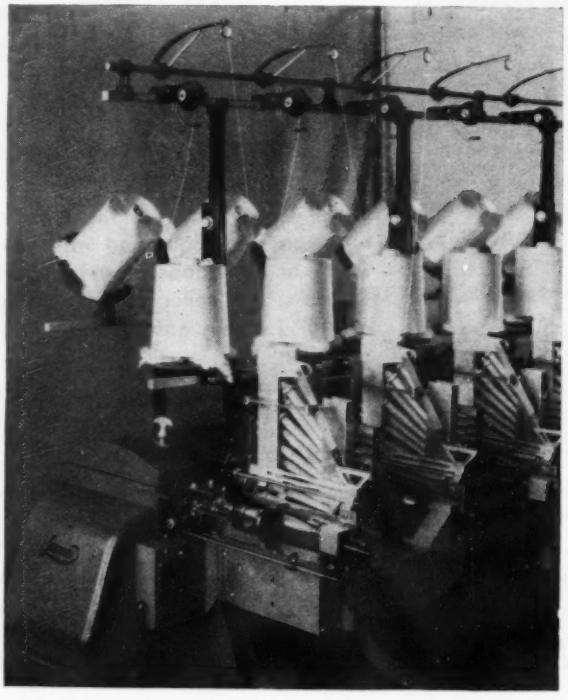
The Universal Winding Co., Providence, R. I., announce the final model* of their automatic high-speed bobbin winder, shown here. Bobbins are automatically loaded to the winding spindle and when full, the spindle will stop. The automatic mechanism will replace the full bobbin with an empty, and start the spindle again building a bunch for an automatic loom when required. The machine is a simplified No. 90 winder plus an electrically-controlled automatic doffer. The traversing mechanism is operated by a rotating cam, which has more than doubled the speed and production. The standard machine has 48 spindles made up of six 8-spindle sections. Each two spindles have a separate automatic control. All winding spindles are on one side for convenience in taking supplies to and from the machine.

One operator, working at the back, places full supply packages in the magazine creel, ties knots, and does the work requiring clean hands. Another operator works on the front of the machine, and fills the empty bobbin hopper which holds 10 to 12 reserve shuttle bobbins. These reserve bobbins will keep the spindles supplied for about an hour on average counts of yarn.

The automatic features, the manufacturers point out, have been built into the machine with a minimum of parts to hold maintenance and repair down. The control method, a combination of electrical and mechanical parts, has simplified the design.

The machine is available for winding rayon, wool, worsted, cotton and other textile fibers. Parallel-sided bobbins are wound with the "layer-lock" type of wind. A change in number of wind for all spindles is made by changing a single gear in the gainer case at the head end of the machine.

(*) The original model was described on page 126 of the April 1939 issue of COTTON.



Dyestuffs and Finishing Agents

E. I. Du Pont de Nemours & Co., Inc., Dyestuff Division, Wilmington, Del., has announced new dyestuffs for the textile field: Polyform Blue RF is a formaldehyde-aftertreated direct color for use as ground shade on viscose rayon which is to be subsequently discharged. Diagen Red Violet DR is a stabilized azoic printing color suitable for application to cotton, and produces reddish shades of violet which possess good fastness to washing, power laundering with chlorine and hot pressing. Sulfogene Brilliant Green 4GX Conc. is a sulfur color which produces bright yellowish shades of green. It is suitable for application to cotton raw-stock, yarns or piece-goods. Sulfogene Brilliant Blue RCF is a sulfur color recommended for both cotton and rayon and is suitable for practically all types of machine dyeing because it levels and penetrates well.

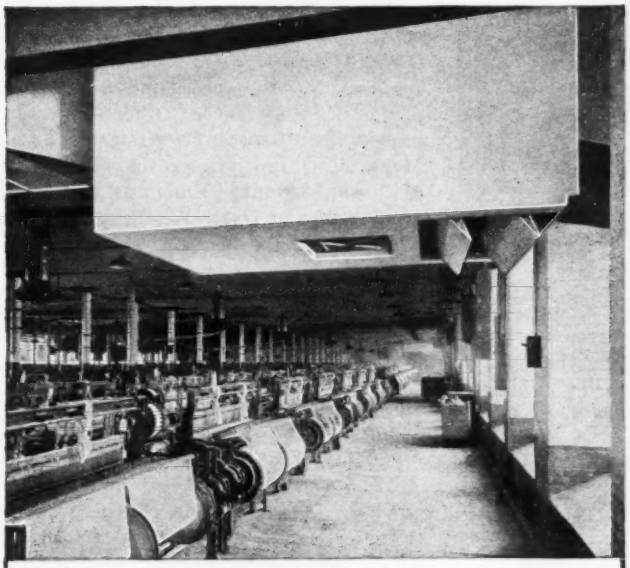
Du Pont's Fine Chemicals Division has announced Methacrol BE as a stiffening and bodying agent, compatible with polyvalent metal ions and with cationic surface active agents. Methacrol NH is a finish for nylon hose which imparts snag-resistance and delustering finish. Methacrol SH is recommended for use either along or in combination with Aridex WR or WP on silk hosiery. It has strong delustering effect on the fiber.

◆

New Textile Patents

According to Paul B. Eaton, patent attorney, Charlotte, N. C., W. A. Kennedy and E. R. Carpenter of Charlotte have been awarded a patent on a resetter for pick counters. This mechanism has means whereby the various counters in a multiple pick counter are left free to operate individually and are locked against resetting, but when it is desired to reset them, a key is inserted which automatically connects the two or more counters together so that the turning of the reset mechanism is connected to all of the counters, and all are returned to zero position at the same time.

Maurice Hendrick and V. M. Abernethy of Cliffside, N. C., were awarded a patent on an apparatus for duplicating pattern chains for dobby looms.



Behind the Airchanger . . . AN IDEA

In developing the modern Airchanger idea for you, we started to answer the questions you textile men have been asking. Why up and down humidity? Why spotty conditions?

The Parks Automatic Airchanger measures incoming air. Admits only just so much. Just as much as constant humidity will permit—and NO MORE.

In hot weather it gives you all the evaporative cooling the humidifiers can develop. Keeps them running. Lets in as much air as possible.

On the contrary, the cooler the weather, the more the incoming air is restricted.

But all the time it is the humidity that stays put—and in all parts of the room.

It is that kind of automatic regulation that makes it an Airchanger. And only the Parks Automatic Airchanger has regulation like that.

Parks-Cramer Company

Certified Climate

Fitchburg, Mass. Boston, Mass. Charlotte, N. C.

Oil Under Looms Shows Wasted Dollars

Oil tells its story of waste and inefficiency by splotches under looms. Oil that creeps and drips from bearings cannot lubricate dependably. Worse yet, it gets on goods causing oil spot "seconds".

70% of all mills avoid this evil with NON-FLUID OIL which stays in bearings. Outlasting oil 3 to 5 times NON-FLUID OIL insures added savings on lubricant and application cost.

Write today for free testing sample and bulletin, "Lubrication of Textile Machinery"

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MODERN TEXTILE LUBRICANT

Better Lubrication at Less Cost per Month

PERSONAL NOTES
About Men You Know

FRANK L. ASBURY, JR., has resigned as general superintendent of Eagle & Phenix Mills Co., Columbus, Ga., to become assistant general superintendent of the Avondale Mills, Sylacauga, Ala., where E. S. DUNN is vice-president and general superintendent.

JOHN G. CHAPMAN, formerly general manager of Samoset Cotton Mills, Talladega, Ala., is now superintendent of manufacturing at Eagle & Phenix Mills.

P. E. SMITH, formerly superintendent of bleaching and finishing at Marshall Field & Company, Spray, N. C., has become manager of bleaching and finishing at Riverside and Dan River Cotton Mills, Inc., Danville, Va. He is a graduate of N. C. State College textile school. Mr. Smith succeeds BASIL BROWDER, who is now assistant to the president.

H. M. GIBBONS, graduate of the Georgia School of Technology in textile engineering, who has been connected with the Lindale (Ga.) division of Pepperell Manufacturing Company, has been transferred to the Mill Department of the company at 40 Worth St., New York City.

W. M. LANGLEY has accepted the position of superintendent of the Warrenville Mill of Graniteville Company, Warrenville, S. C., having formerly held this position with the Abbeville (S.C.) Mills. MARVIN HEWITT has been made overseer of carding at the Warrenville Plant.

JOE F. CHALMERS has been promoted from superintendent to general superintendent of the Mathews Cotton Mill, Greenwood, S. C., and he is succeeded as superintendent by J. MANNING BOLT, recently general superintendent of the Chadwick-Hoskins plants at Charlotte, N. C.

A. P. SMITH, formerly with Southern Brighton Mills, Shannon, Ga., has become overseer of weaving at the Sibley plant of Sibley Enterprise Co., Augusta, Ga., succeeding C. W. BURBUM, who is now general overseer of weaving at the company's plants.

GEORGE W. CHILDS has been promoted from vice-president to president of the Chalmers Knitting Company, Amsterdam, N. Y., succeeding the late JAMES E. CAMPBELL. Other officers named are: GEORGE C. WILLIAMS and MARK J. QUINN vice-presidents, JEAN M. REES, secretary; EDWIN H. PATTON, treasurer; and DAVID W. CHALMERS as chairman of the board.

FRED GRAICHEN has been made chief designer at Fulton (N.Y.) Mills of the American Woolen Company. In past he has been designer at the company's Puritan Mills; he is also president of the National Association of Woolen and Worsted Overseers.

D. C. ANDERSON, who has been connected with the carding and spinning department of the Lanett (Ala.) Division of West Point Manufacturing Company, has become superintendent of the Caroline Mills, Carrollton, Ga.

EARNEST A. JOHNSTON, overseer of carding at Jefferson (Ga.) Mills No. 1, has been promoted to overseer of carding, spinning, spooling and warping at the same plant.

ROBERT L. COLE has been elected president of Hannah Picket Cotton Mills, Rockingham, N. C., succeeding his father, W. B. COLE, who is now chairman of the board.

WILLIAM T. WOOD, works engineer of the Seaford (Del.) plant of E. I. du Pont de Nemours & Company, has been appointed manager of the company's Martinsville (Va.) nylon plant.

ROBERT LITTLEJOHN, formerly overseer of weaving at the Spindale (N.C.) Mills, has accepted a similar position with the Mayfair Cotton Mills, Arcadia, S. C.

G. W. DOUGLAS, president of Roman Stripe Mills, has been elected president of the Chipman Knitting Mills, Easton, Pa., succeeding the late JOHN S. CHIPMAN, who passed away in October.

K. M. Yow has become night overseer of weaving and slashing at the Sanford (N.C.) Cotton Mills, having been promoted to this position.

E. P. JOYCE, Spartanburg, S. C., has become secretary and assistant treasurer of the Startex Mills, Tucapau, S. C., succeeding C. G. WHITE.

HENRY LAURENS has become overseer of weaving at Borden Mills, Kingsport, Tenn., succeeding HARRY SULLIVAN.

(Additional personal notes and obituary items on page 82.)

Waiting Room Stuff

By Our Telephone Operator

(Contributions to this irregular department are invited from mill men and the traveling fraternity.)

We hear that Frank Lockman (Lockhart) is planning a hunting trip to the Maine woods. Did you hear those birdies sing, Frank?

•

It's happened! That well-known calfskin salesman from Greenville whose initials are H. H., his green Lincoln Zephyr, and his chauffeur in long green coat with brass buttons—all pinched at Spartanburg. Understand they tangled with the game warden's car, of all things.

•

Chester Robbins (Aridye), Rock Hill, S. C., is learning to speak Portugese in preparation for a tour of South America this month.

•

W. S. (Andy) Anderson, of Charlotte, is just back from New Orleans where he says he acquired a hankering for some of that iron grille work he saw on the balconies in the French Quarter. This is not what most of us get a hankering for in New Orleans.

•

Dave McSpadden, Charlotte, says he no longer has those pictures mentioned here some time ago. Must have something better now.

•

Does Louis Batson get swell-headed in church, or is it that Sunday-go-to-meeting hat that makes him look that way?

•

Roger W. Cutler had the bridal suite at the Poinsett for one night on his way to Florida for naval duty—Lieutenant Commander, U.S.N.

Mrs. Marie Morgan Key keeps good care of Ernest on those trips to New York. She says she goes up there for the food, especially the hard rolls.

•

Al Traver, Jr. (sales and service for Central Franklin Process Company) says that being a "dam yankee" is a compliment, but he insists that yankees are New Englanders; and not everyone from above the Mason-Dixon Line.

•

Jake Kennington of LaGrange enters the competition for having the longest car in use by a salesman, but he drives it himself. Just climb in the back seat some time and ask him to turn on the refrigerator.

•

Mason Alexander at the Poinsett Hotel in Greenville reports an S.R.O. sign almost every night in the middle of the week. This applies also to the Waverly and Ralston in Columbus, Ga. Better make your reservations ahead.

•

Some of those hosiery mills that Jack Baker is trying to sell baskets for handling nylon would probably buy them if he would get them some nylon to handle.

•

A WSB sports announcer the other night wound up a beautiful tribute to Cantey Alexander, as a former Tech football star, by stating that "Cantey is now a dye salesman in Greenville, S. C." Cantey really sells starch, instead of dye; that error wasn't so bad, but that announcer better beware of the Chamber of Commerce in Spartanburg, which weaned Cantey away from its neighbor some years ago.

•

And if you want to sell anything in Spartanburg County, don't call it "Spartansburg", even in your reports to the home office!

•

Alan Clow of Atlanta, a newcomer to the South for A. M. Tenney Associates, became a husband recently. Congratulations!

Automatic Spooler

PART OF THE BARBER-COLMAN SYSTEM of Spooling and Warping

CONVENIENCE FOR THE OPERATOR

MEANS GREATER EFFICIENCY WITH LESS FATIGUE

Putting up ends in the Automatic Spooler (upper picture) is an easy, smooth-flowing operation because of the convenient location of supply bins, bobbin pockets, and yarn clamps. Doffing and handling (lower picture) is made easy by the throw-out position of the full cheese and the handy tridents and truck.

BARBER-COLMAN COMPANY

ROCKFORD, ILLINOIS, U. S. A.

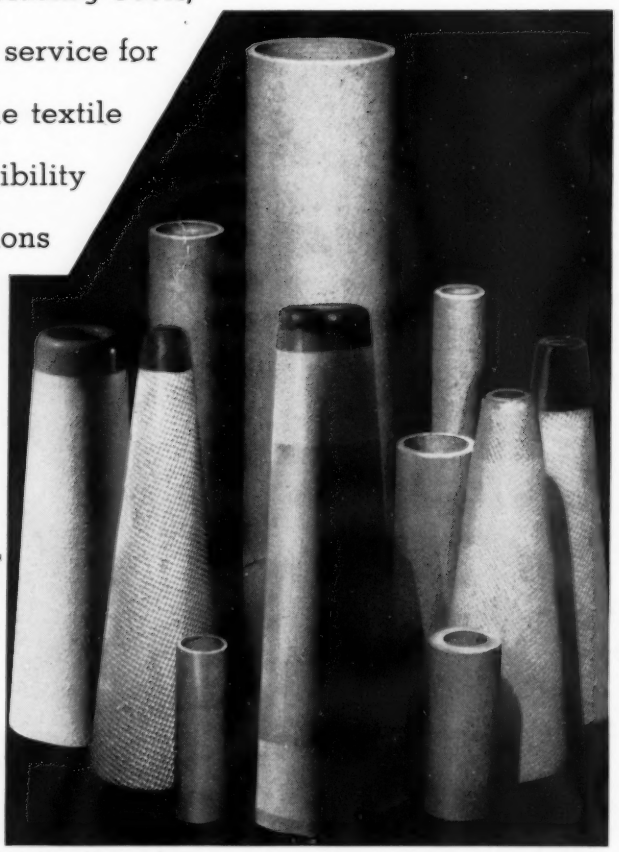
FRAMINGHAM, MASS., U. S. A. • GREENVILLE, S. C., U. S. A. • MANCHESTER, ENGLAND • MUNICH, GERMANY

It's GREEN!

Business signals the "go-ahead." All signs are favorable for a successful business year—but,

Beware of the red danger signal in mounting costs, of inefficiency, of waste and of reckless speed—

At Sonoco, we continue the same deliberate efforts to improve our products and hold down manufacturing costs, that have characterized our service for many years. We share with the textile industry a very definite responsibility for greater efficiency in all operations wherever our products are used.



SONOCO MAKES *EVERYTHING* IN *PAPER CARRIERS*

SONOCO PRODUCTS COMPANY

BRANTFORD ONT. HARTSVILLE S. C. MYSTIC CONN.

DEPENDABLE SOURCE OF SUPPLY

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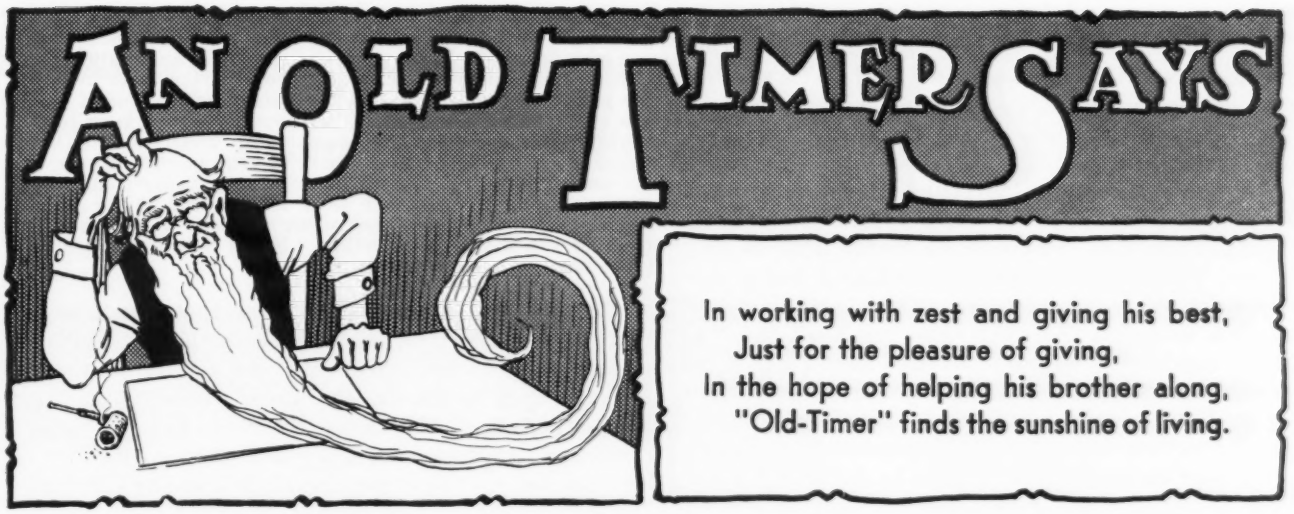
PAPER CARRIERS


AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

What is Progress? What is Money?

(Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part in the conversation, while those in *italics* represent JIM'S part.)

What is progress, OLD-TIMER?

That depends, JIM, on what kind of progress you have in mind. For example, I would say that at the moment, that man they call Hitler has made considerable progress in Europe. I believe, with the capitulation of France, he has conquered nine—

Shut up before I pull all the whiskers out of your face. I do not want to even hear the name of that * ! ? * ! ! *brute spoken.*

O. K. JIM, O. K. All I wanted to find out was what you had in mind when you asked the question. You know we have discussed several times the ambiguousness (gosh, that's a big word) of the English language; the fact that you can make the same words in a sentence say yes, or no, makes it somewhat difficult to understand what a man has in mind when he asks a question, unless, of course, you understand his background, and then you can't be too sure, because he is likely to be thinking of something entirely out of his line of work; something he merely wants information about.

Well, you know, OLD-TIMER, *my thoughts are usually about a mill, or something that will affect a mill or affect my job, and what really caused me to ask the question was that yesterday two salesmen called on me and as one of them started to leave my office I walked out with him to meet the other salesman who was waiting to see me; they were acquainted, in fact, had once worked for the same firm, and were good friends, and, although working for different firms now, they sell practically the same products. One of the salesmen was from Charlotte, N. C., and the other from Birmingham, Ala. Sam H., who was from Charlotte, says to Bob T., from Birmingham: Where you headed for, Bob?"*

"I'm going to Charlotte. Where you going, Sam?"

"Oh, I'm on my way to your home town, Birmingham."

"Well, I'll be darned," I remarked to both of them, "looks to me like you fellows could have had a mutual understanding, and Sam, here, could have made your business call for you in Charlotte, and you, Bob, could have made his business call in Birmingham, and, Gosh, look at the gas and hotel bills you would have saved".

We all laughed it off as a good joke, but the more I think of it, OLD-TIMER, *the more I realize it is not such a joke after all, but is one of those problems which maybe some smart guy will do something about some of these days. You, of course, know that the mills (the customers) are paying for the gas, for the automobiles, and the salaries those two fellows draw, and as this little illustration of what happened in my office is only a very small mater compared with the millions of dollars which are spent each year on account of the same kind of overlapping work by men in all kinds of businesses throughout the world—heck,* OLD-TIMER, *you know darned well somebody is going to do something about it sometime.*

Yes, JIM, it is somewhat like trying to explain the simple question we have all heard many times, although probably in different ways. One goes something like this: I know a superintendent who owns a store building that is rented to a grocer. This superintendent gave the manager of a gas filling station a $20.00 bill to settle his gas account; the filling station owner gave that same bill to the grocer to settle his indebtedness; then the grocer hands the same $20.00 back to the superintendent, who owns the building, in payment for his rent, the result being that sixty dollars' worth of debts were paid with one twenty-dollar bill, and, in the end, the superintendent had the same twenty-dollar bill with which he had started.

Now, JIM, I would not call that progress, for the simple reason that not one of these three men created anything. Progress demands that something be created: planting cotton seed and making a pound or bale of cotton and selling it. That pound or bale of cotton is something the world did not have before; therefore, something has been created, putting the value of dollars into the world. That is one form of progress.

However, go out on the road any day and here comes a fellow driving like Hell-a-beating-pine-bark—

Not pine bark, OLD-TIMER, *tan bark.*

Sure, JIM, tan bark, but, anyway, he is burning up the road going to some town, and here comes another guy like some more beating-tan-bark going to the very town this other guy just left—heck, JIM, it just don't make sense, does it?

Certainly it doesn't, OLD-TIMER. *It reminds me of the way you kept pounding at us overseers years ago about co-operation. You made me realize, after so long a time, that as an overseer of carding I had a real responsibility for the success of the spinning and weaving, and even the cloth room and machine shop. Oh, of course, I had always realized that I had a responsibility to the spinning room insofar as I must try to make the very best roving I possibly could, and things like that, but when you began to try to explain to me that my responsibility went so far as the character of the overseer of spinning and overseers in all the other departments—well, by gum, it looked to me as if you were carrying the thing a little too far. However, as you explained to us, the interpretation you were giving the word character, namely, that it did not necessarily mean moral character alone, but a man's general attitude toward his immediate boss, toward his firm, toward his operatives, toward the welfare of the community, and especially his attitude toward his brother overseer—*

I can realize now that you tried, for a long time, to drill the idea into our heads, without much success, and then one day as you passed through my card room you said: "Come on, JIM, *let's go up through the spinning room and see how the work is running." Well, I didn't think much about the significance of that until you came walking through the card room the next week with the boss spinner and the boss weaver, and then I thought: "Now what in the heck is the matter with the cloth or the warps, or something," (that, I gathered, being probably the reason you were bringing the overseer of spinning and the overseer of weaving through my room,) but as you came around to where I was I soon saw by the expression on the faces of all of you that there was nothing seriously wrong and that you were still working on the same old idea you had been hammering on for months and months, and this was simply another way of trying to get us overseers to understand what you were trying to do.*

Now, aside from your main idea, I want to let you know, because I have never told you before, that those visits of the overseers to each other's rooms brought about an understanding between us and relieved a certain feeling of jealousy which comes to exist between the department heads in all industries, and resulted in our getting together and working out many little vexing problems among ourselves that otherwise would have gone on and on until it would have come to your attention and you would have had to straighten out after they had cost the mill money.

(Do not let the reader misjudge the use of the word "jealousy" as used here, for that may not be the proper word to use to fit the relationship between department heads in all mills or other industries. In some cases the word "mistrust" or "distrust" may fit better; in other cases "suspicion", and in other cases it may be "envy", this being the cause, probably, when the overseer of spinning knows of something going wrong in the slashing or weaving and does not go to his brother overseer about it, but simply says to himself, "It's none of my business". But it matters not what word is used or which is the correct word for your case, you know darn well what I am talking about, and you also know that this condition exists in your plant, and that if it did not exist all of you would make more money for your firms. So, why don't you start today, even if you are not a superintendent, trying honestly to do your part toward bringing about that harmonious understanding between all of the department heads in your plant? You will not only receive the benefit of it in your department, but you will establish yourself as a leader, and either your superintendent or some other superintendent will some day find out you have "got something" which is badly needed in these days of keen competition.)

Thanks, JIM, I am glad to know that you fellows profited by, as well as appreciated, the idea or system it took me so long to sell you. As you know, there were 17 men, overseers, and superintendents, at the plant where that experience occurred, but the same reasoning will, and does, apply to a plant where there are only three or four overseers, such as one carding, one spinning, one weaving and one cloth room overseer, and any kind of system which adds to the efficiency of men of course means progress. Likewise, any system that detracts from the efficiency of men as foremen, or from a people as a nation, is the opposite of progress.

For example, I believe history teaches us that China was once the most progressive country on the globe, some of our wisest philosophy coming from the Chinese, as well as some of our useful inventions, of which I believe gun powder is one. Then some smart guy came along with the idea, like a lot of selfish men do, to keep the world from learning about their ideas and built a wall around the country to keep their ideas in, and, incidentally, kept other people's ideas out, and look what has happened to China. Of course military men have always said the wall was built for military protection; be that as it may, they did not want to mix, to co-operate with other people, and they lost instead of gaining, just like the foreman with such ideas does.

Don't forget, OLD-TIMER, *I asked you "What Is Money?" and you haven't mentioned a dime, yet.*

No, JIM, and I certainly don't know how to start, except to say that money is a mystery to me, and I have never yet heard anyone give much of an explanation of it. I did relate the story to you about the $20.00 bill paying off $60.00 worth of debts and winding up by being back in the pocket of the man who used it to pay a $20.00 debt; therefore, we will try one more illustration:

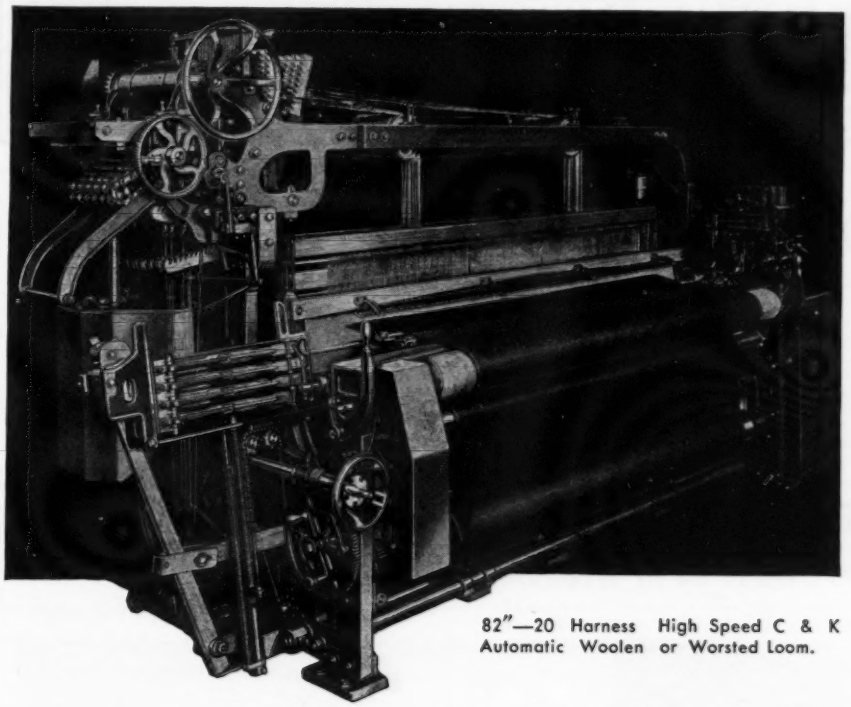
Suppose you could draw a ring, or build a wall like China did, around a tract of land, a tract large enough to support several thousand persons, and the land could produce all the necessities the people would need for a comfortable existence, and that community, we will call it, would have its farming, its manufacturing, its stores and everything needed for the employment of its people, etc.; instead of having gold or silver or green backs for money they would have yellow-backs, or some kind of paper which they would call money. So, what is to prevent such a community or its people from doing business among themselves, with the yellow pieces of paper they call money, the same as we do business with what we call money?

That is not a very good illustration, OLD-TIMER, *because the first thing most any one would say would*

(*Continued on page* 106.)

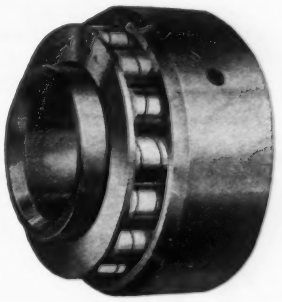
MODERN TALK AND MODERN ACTION

Resulted In This Modern Loom by C & K Equipped with Hyatt Roller Bearings



82"—20 Harness High Speed C & K Automatic Woolen or Worsted Loom.

Crompton & Knowles Has Used Hyatts for 20 Years



Hyatt High Duty Precision Roller Bearing used as Standard Equipment in the C & K Loom pictured opposite.

A direct benefit to woolen and worsted mills in these days of production for National Defense.

MUCH is heard these days about modernization, research and development, obsolescence of old machines and ideas, improved engineering methods. • Such talk is modern all right, but it doesn't mean anything unless modern action follows. • Modern action on machine design never forgets Hyatt Roller Bearings because these modern bearings are more efficient, use less power, maintain their original accuracy for years, require little lubrication, keep a machine going smoothly in these days of higher speeds, continuous operation, and heavier bearing loads, with less maintenance. Ask for Hyatts in all your machines. Hyatt Bearings Division, General Motors Sales Corporation, Harrison, N. J.

HYATT *Roller Bearings*

ALL STEEL
ECONOMY BALING PRESSES
ALL SIZES FOR ALL PURPOSES
LARGEST LINE BUILT IN U.S.A.
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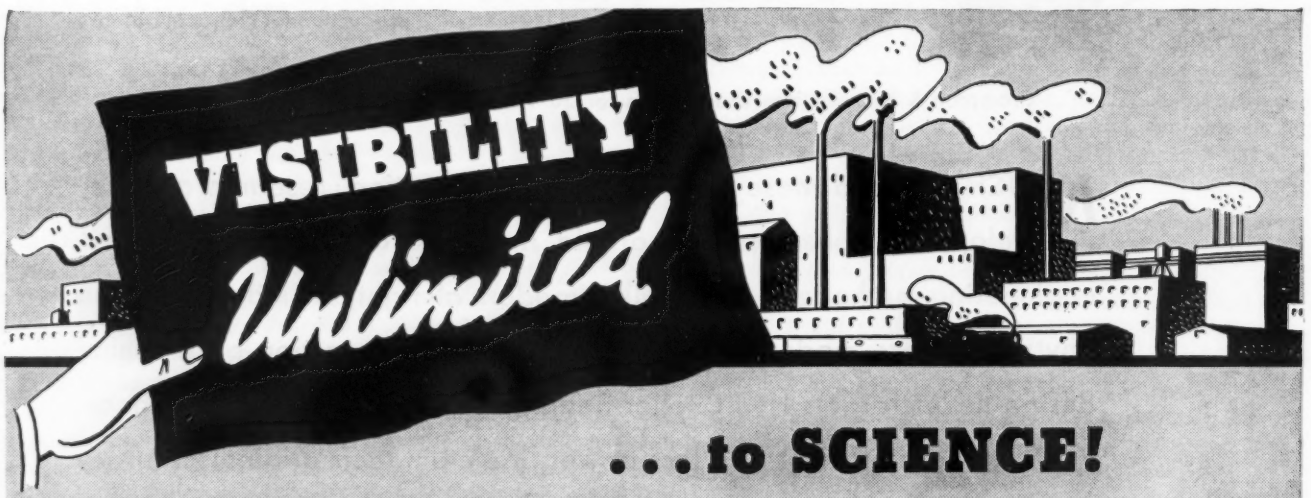

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HOW OTHER MEN MANAGE

Comments on Cloth Room Series in "Cotton"

EDITOR'S NOTE: Many textile mill executives realize the value of having their men visit other textile plants for the purpose of picking up ideas, and such progressive mills welcome other mill men to their own plants. In fact, we know of some mills that send their men on tours at periodic intervals.

The author of the following letter has visited textile plants all over the country and he has picked up some good information, and he is the type to pass along to other mills what assistance he can while he is visiting them. It so happens that he is particularly interested in cloth room procedure and practice, and in talking with him one day, he began to discuss the "Cloth Room Practice" articles that appeared in COTTON *during 1940. The editors saw that he was pretty well wound up on his subject, so asked him to write them a letter commenting on the articles. He did.*

EDITOR COTTON:

From March through November, inclusive, of 1940, COTTON published a series of interesting articles on "Cloth Room Practice"[A]. These should at least have called attention to the importance of the cloth room, and it is to be hoped that every superintendent and cloth room overseer has read them. Undoubtedly they have shed light on problems which the overseer has had difficulty in solving and given him information he did not know how to get.

Whether these articles were written by superintendents or cloth room overseers, I do not know. However, while reading some of them, the thought impressed itself on my mind that some of them at least had been written by people who had not been around much; that they were simply following the same routine they had always used and had not visited around in the mills to see how the other fellow lived and worked.

I have perhaps been fortunate, or otherwise, in visiting and working in mills from Maine to Texas. I have seen the best as well as the not-so-good mills. I hesitate to say the worst, as there have been plenty of sorry mills, but from time to time I do find one that is perhaps a little more run down than any I have seen so far. So where the worst mill is located would be hard to say. At some of these mills I have found cloth room overseers in that position with no other qualification for the job than that their father had been overseer of that department before them; old men and women in the cloth room that the mill did not want to pension off but had to work at something; the cloth so poorly constructed that it really made no difference what happened to it when it got to the cloth room; where it went, no one knew and cared less. What equipment was grudgingly given them to work with was old, obsolete and not fit to run. The mill, the equipment, the village and the grounds around the mill and village showed the same slackness and indifference.

Now, on the other extreme, is the up-to-date, modern mill. On driving into the mill village, you find the houses painted, the grounds picked up and the lawns well kept. You can be sure the equipment is also kept in the same condition. In the cloth room the overseer may be along in years, but most of the help is young and healthy. They take an interest in their work. They know what the other mills within 50 mills are doing and how their methods and work compare.

Just recently, I heard a superintendent kicking about an invoice of forty dollars for parts for folders. Later he admitted that was the first money he remembered spending on five machines in five years. Yet the product of his mill was sold by the yardage on these folders. Just sit down and figure $\frac{1}{8}$th of an inch a yard on five folders running eight hours a day at 110 yards a minute. A neat little sum at the end of 52 weeks! In other mills, the cloth room overseer can have anything he needs, within reason, to keep his equipment in first-class shape. He is not afraid to ask for or suggest new equipment to improve the handling of the goods.

Well, I have digressed enough from the articles, which I intend to comment on, so here goes, starting with Part One which appeared in the March 1940 issue.

Inspecting and Rolling

I first take exception to the method of inspecting and rolling.[B] In 75 per cent of the mills using power inspectors, imperfections are marked only. Those

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A, March issue page 51, April page 81, May page 69, June page 76, August page 74, September page 64 and November page 59.

B, Page 52 March issue: "If the cloth is to be inspected on an inspecting machine of the inclined type, the roll of cloth is placed behind the machine. The cloth is then run over the table—the cloth moving toward the inspector—and is rolled up on a core suitable for delivery to customer or so that it might be run through a folder. Whenever it is necessary to cut out a serious defect the ends of the cloth are sewed together by means of a portable stitcher. . . Whenever possible it is advisable to use this method of machine inspection for these grades of goods as the cost per yard of inspection is much less than when inspection is done on flat table after folding."

that can be corrected are eliminated. Those that cannot, are marked so the grader can find them readily. If the grader does not know what to do with the goods, the cloth room overseer makes the final decision. The goods are very seldom cut on these tables and hardly ever shipped from this machine. There is no way to make a nice, even-ended roll on this machine and the rolling head is not designed to make a firm, hard roll. This reminds me of a cloth room in South Carolina. They were using a make-shift rolling head, making a roll 32 inches in diameter. The roll contained about 1000 yards. After buying a suitable machine, they were rolling 1700 yards in a 32-inch diameter roll. The cloth was shipped by truck, so there was a difference of about 75,000 yards more in each truck load after the new equipment was put in.

Table versus Flat Fold Inspection

I also disagree with the statement that the table inspection is cheaper than the flat fold inspection. I will admit the inspection over the table is a much better inspection than the flat fold, but no cheaper. With the flat fold, the inspector does not see all the goods, but with the table inspection, every inch of the goods is visible. Some mills do inspect in the fold and turn the full yard over but that is a slow method and expensive.

This article also says that on the folder the thread at the seam is pulled out to prevent waste.[C] This might be true on some goods, but a good many users of cotton goods will not accept goods with the needle holes in them. The seam must be cut out on the folder. The loss of time required to pull the thread out might more than offset the value of the goods saved.

Goods inspected in the fold on tables usually keep up with the folders. The goods are not stacked on movable trucks until the truck is full, as suggested in this article. In most mills, the cut from the folder is placed on a table behind the operator. The grader, not inspector, inspects and grades the goods immediately. The cut, or cuts, if the goods need to be cut, are then put on a carrier belt that conveys the goods to the press. The short cuts are sorted here and piled in the proper pile or baled immediately.

I have seen hydraulic presses very seldom used in the South. The old type knuckle joint press has been replaced in many mills with a new motor driven press operated by chains. The hydraulic press does have some advantages, but it is not in common use, by any means.

Folding Goods

In folding short cuts for export trade, or to be shipped direct to the trade, more and more mills are now cutting the goods on the folder. If 10 or 20-yard cuts are wanted, the folder is stopped, the goods cut, and the folder started again. Everyone knows the first few folds on a folder are likely to be short. Any folder will fold 200 to 250 yards of the average goods. Folding to the full capacity of the machine will eliminate all of the short folds except on the first cut.

This same article refers to handling napped goods[D]. Evidently the writer is describing the operations in his own mill and not those used by other mills, but then no two mills handle napped goods in the same way. Most of the mills have methods of inspection different from those described in this article. The final inspection is on the folder or winder. Lights back of the goods show up thick and thin places and weaving imperfections. Long rolls of napped goods over 18-inches in diameter are usually rolled on a railway sewing and rolling machine.

In concluding comments on this first article, I would suggest that this mill could very well study the handling of cloth in the cloth room. They seem to spend most of their time trucking (and I don't refer to dancing) from one place to another. A streamlined mill trucks the cloth from the weave shed and has no further use for trucks from then on.

Part Two[E] refers to the treatment of pillow tubing and sheetings. The usual trucking activity continues. The various methods for handling these materials seem to conform to the usual methods used in the various mills making these products. The old practice of folding double-doubled goods from a loose fold by rodding has not been used for so long that I had forgotten all about it. Folding from a double-doubler is also of the dim past. Single-doubled or double-doubled goods are rolled and kept in a roll long enough for the doubled edges to become set. Then the crease will stay in any future process such as folding by machine or winding. At least two of the southern finishing plants have a special winder for putting up either gray or finished double-doubled sheetings onto boards for shipment. The package is hard as a rock and so much more compact than that put up by plants not using this type of machine.

Cloth Room Employees

Part Three[F] refers to the help in the cloth room. This is covered very nicely and there is no need to comment at any length. The various subjects are so obvious, one would hardly think it necessary to mention them. Until recently, however, the idea of giving the help in the cloth room any special test never seemed to occur to the overseer, or anyone else connected with the mill. These conditions are fast being remedied, however.

Part Four[G] first refers to the lighting in the cloth room. Even in good rooms, this feature has been sadly neglected. Conditions have improved in this respect, but are still far from ideal in a large majority of mills. This should be of vital importance, as different kinds of goods require special lighting arrangements. The fancy goods mills have given this feature much more thought than the average mill.

C, Page 52 March issue: [On the folder] "to prevent waste of cloth the stitcher thread should be pulled from the cloth at each seam."

D, Page 54 March issue.
E, Page 81 April issue.
F, Page 69 May issue.
G, Page 76 June issue.

These mills now do not depend on daylight at all. The windows, if any, are covered and artificial light used the year round. This gives the same light day or night, in clear or rainy weather.

Cloth Room Humidity

Humidity is another important detail to consider. Shearing machines have made this more important. Most mills shear their goods today. Shearing depends on suction. If there is no humidity in the cloth room, sucking the dry air through and around the cloth will certainly lower the amount of moisture content in the goods. I have yet to find a mill superintendent who could tell me the percentage of moisture taken out by the shearing operation.

Just to illustrate this point: A mill recently installed a shearing machine in a small cloth room. The fan from the shear took care of the shear and brusher and discharged into the old dust house under the mill. They had several humidifiers in the cloth room of the atomizer type. Before the shear was installed, these humidifiers would be on perhaps 15 minutes each hour. After the shear was running, these humidifiers never shut off. A short time later, the mill installed an air filter in the cloth room, into which the fan discharged, keeping the humidity in the room. Instantly, the humidifiers were back to normal, at about 15 minutes to the hour.

Another illustration, just to show the importance of this humidity control: Another mill had always used a dust house under a warehouse, about a hundred yards from the cloth room. They installed shears and had to increase the size of the dust house. During the alterations, they disconnected the pipe and put a large sack over the end of the pipe and laid it on the floor of the warehouse. Inside of 8 hours, the bag was lying in a pool of water and it had started to spread all over the floor. It was discovered before any damage was done to the goods in the warehouse, but they had never given a thought before of how much humidity and heat they were throwing away. I have found that new mills have a temperature and humidity control in the cloth room. This is set for about 84 degrees temperature and 72 degrees humidity. This insures the same amount of moisture content year in and year out.

Part Five[H] refers to singeing selvage loop threads by hand. This is an old obsolete method[I]. There are several machines made today for opening up these loops and cutting them off. Some of these are used in connection with shearing machines. The loops are cut open first and then sheared off, in the same operation. Some of these attachments are still crude but have been in use for several years. I have been told that experiments are being made along this line, however, and that before long a new machine will be on the market to do this work much more efficiently. There is a larger variety of goods made on box looms, some of them drapery materials that cost a lot of money to make. These must be cut off by hand with a pair of scissors. Carelessness on the part of the man singeing them would damage too much cloth over a period of time, no matter how careful he is.

Tandem Inspection

The writer of this article also refers to the tandem method of inspecting wide sheetings[J]. What he says is true to a certain extent but he does not have the complete picture, by any means. I have just seen this new machine in operation and have nothing but the highest commendation for it.

In the first place, this machine does not have the foot treadle for starting, stopping and reversing the cloth. This is all done by an electronic control. The operator just interrupts a light beam to start the machine. To reverse, she tips a handle conveniently located so as to be immediately available. The arrangement of scrays allows an accumulation of goods so in case one operator leaves the machine for a few minutes the other operator always has some cloth to inspect. The first machine, where the battery side of the goods is inspected, runs 30 yards per minute, and the second, 45 yards per minute, as there is not so much work on the other side of the goods. The second girl, too, is able to run two machines and keep up easily. This makes three operators for two outfits, handling as much or more goods than with the old method. Then, too, two girls standing side by side have an awful lot to say to each other. This might not distract their attention from their work, but it does not make for efficiency. The last and best feature is the simplicity of operation of the machine. Just a slight move of the dress, and the machine starts. A flip of the wrist, and it reverses. No standing on one foot mashing a treadle that won't start the machine. No clutches to get out of order. No reverse motions to keep in adjustment. No physical fatigue at the end of 8 hours' work. Does a little extra floor space more than offset these advantages?

Keep Machines Level

In most cases, the product of a mill is sold by the yard. This is secured as the goods are run over a folder, or hooker or yarder, as these machines are called in the mills or finishing plants, as the case may be. These machines are fairly simple but must be kept in proper adjustment. If not properly adjusted, they will give all kinds of trouble. They should be absolutely level. If one corner is low, it will cause binding and the table will not slide down and up freely. The bevel boards that work with the iron jaw should fit evenly all the way across the machine. Many mills pack up under one corner to make the jaws hold rather than plane it to fit. As the product of the mill is sold from the production of this machine, you can see how important it is that it should be in A1 condition. More complaints are made because of incorrect yardage than all other complaints combined. So why not realize the vital importance of this machine and save a headache from some finishing plant a thousand miles away I really think some superintendents want a kick, as they get a nice trip out of it.

H, Page 74 August issue.

I, A correction on this point appeared on page 124 of October issue.

J, Page 75 August issue.

Several of these trips, however, would cost enough to replace that 50-year-old folder with a new machine.

Inspecting and Grading

Part Six[K] refers to inspecting and grading firsts and seconds. If the cotton is of a good grade, if the opening machines and cards are in good condition and in proper adjustment and not too crowded, a good start is made on a good piece of material. If the spinning is running well and the yarns properly sized, the weaving and cloth room will take care of their part of the work easily. The looms must, of course, be kept in good repair so as not to have slack selvages, which always give trouble. Cloth cannot be made in the cloth room. After it gets there, it can be improved a little, but not much. If a complaint is received about a shipment, the cloth room overseer is the first to be called on the carpet. He did not make the goods. If the overseer of weaving has charge of the cloth room, the chances are he has been shipping seconds as firsts to cover up his poor weaving.

Part Seven[L] should be read carefully by every superintendent and cloth room overseer. The last paragraph sums up the whole series perfectly. In dull times, you hear only too frequently "How does such and such a mill run right along when we have to curtail because we have no orders?". The answer is usually found right in the cloth room. The mill has made its reputation of shipping the kind of goods needed. If an order is for ten thousand yards or a million, the goods are well made, look good, the yardage is there, and no seconds are slipped in, hoping they will not be found. The cuts are neat. If shipped in rolls, they are compact, with even ends, and well wrapped.

This whole series of articles has been interesting in that very seldom, if ever, is the cloth room and its operation discussed in such detail. I hope it has been widely read as it really is an important department in any mill or finishing plant. It has problems the same as other departments. No matter how much care is taken to make a piece of material, the reputation of the mill can be made or broken in the cloth room.

Cloth Room Important

The industry is now waking up to the fact that the cloth room is very important. The purpose of the cloth room is to prepare the materials for shipment. Every yard of goods manufactured passes through it and here it is that the final test is made, not only of the fabric itself, but of the methods of manufacture and the efficiency of the preparatory and productive machinery.

In this department, poor work in other departments is brought to light and can be corrected or passed over. If the cards are overcrowded or not in proper adjustment, this fact can be determined, and corrected at the cards, or the hope can be nurtured that the brushing machine will remove enough of the dirt and trash to leave the goods salable.

If the looms are out of adjustment or the weavers careless, this, too, is discovered in the cloth room. Rather than expect the brushing machines and shearing machines in the cloth room to brush and shear satisfactorily cloth with slack selvages, the trouble should be corrected where it belongs, in the weave room.

The cloth room should be equipped with up-to-date machinery which is taken care of regularly and kept in first-class condition by an experienced mechanic. It should be clean, accurate and kept at top-notch production speed at all times. Too many mills depend on old machines for which even repair parts are begrudged. Compared with those of other departments, repair figures of the cloth room are very small indeed.

The cloth room overseer has a full time job on his hands and should be an impartial judge of the results of the previous processes. The cloth room overseer and weave room overseer should work hand in hand, the former to call attention to defective weaving, and the latter to see that it is corrected.

The cloth room of an up-to-date mill is the pleasantest room in the plant in which to work. There is plenty of light and air, little noise, and no excessive heat or humidity. The operators are young and healthy, with good eyesight and alert minds. They know the importance of their work and are on their toes to do a good job.

Perhaps the best way to summarize the whole series of articles is to quote from the last paragraph of Part Seven, which reads as follows: "What I mean is that careful and constant attention in this department will mean that only first quality goods, when specified, will reach the buyer. In this manner your mill creates favorable impressions in the buyer's mind and when he is again in the market you may be sure that he can well remember where his last shipment came from. Impressions like these may be the difference between running full time and curtailment."

CONTRIBUTOR No. 7177

Baggy or Slack Cloth on X-Model Loom

EDITOR COTTON:

We are having some trouble on our X-Model loom. After the cloth gets to the cloth room it shows up to be slack or baggy about half the roll on the lever end of the loom. This condition does not show up in the weave shed. For your information, the gears and stand are new; take-up works easy; let-off is okeh; breastbeam, whip roll, and drag rod are level; the cloth stand does not bind; and the shims are all right. Also, the power is correct and the cloth rod is straight. The loom makes baggy or slack cloth with a cloth tube or with the regular rod. This applies to 100 x 60 broadcloth.

Any information the readers of COTTON can give me on the cause of this trouble will be greatly appreciated.

CONTRIBUTOR No. 7170

K, Page 64 September issue.
L, Page 59 November issue.

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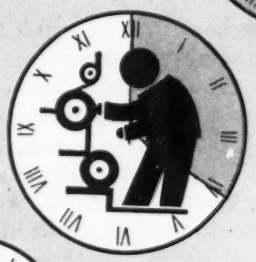

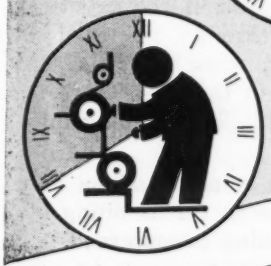

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Width of Sliver Guides for Drawing Frames

EDITOR COTTON:

A few weeks ago a friend of mine, who has been associated with the textile industry for a number of years, and who has worked for various overseers and superintendents, asked me a thought-provoking question, which the writer would like to pass along to the readers of COTTON for comment. This question was: "What should be the correct width of a drawing frame semi-circle sliver guide for a given grains-per-yard sliver?"

Apparently, there are two schools of thought in practically every textile issue, but when we come down to brass tacks, after analyzing a problem technically and practically, the conclusion—in most cases—is one single fact.

To make the question of drawing sliver guides more vivid to the readers of COTTON the writer would like to explain two incidents which occurred in a certain mill about sliver guides. A mill in which fine cotton goods were being manufactured had its drawing frames equipped with narrow 4½-inch sliver guides. These guides, according to the employees, were ordered especially to make a 45-grain sliver at a draft of six.

This mill changed hands. The new organization carded products calling for a 65-grain sliver at a draft of six. This new sliver was being made on the narrow guides, making a 4-inch sliver web at the nearest point between the delivery steel and the top rolls. This went on for about two years without anyone's paying any attention to the quality of work being done at the drawing frames.

Then a new overseer, John Brown—a fictitious name—after looking this situation over, thought of changing the narrow guide to a 6-inch wide guide, making a 5-inch sliver web. These wider guides were part of the original equipment of these 1912 drawing frames. Incidentally, the former organization kept the wider guides in the mill.

Finally, another new overseer, John Smith—also a fictitious name—heard about this sliver guide story, and, after a few days of consideration, ordered the narrow guides changed back. Well, the writer thinks, perhaps, if another overseer comes along another change will be made.

Now, the climax of these two incidents was that both overseers, Brown and Smith—without any explanatory reasons why one guide was better than the other—made these changes simply because—so they said—the mills in which they worked before made good quality yarns with these same above-mentioned guides. Curiously enough, the explanations of the two men were identical in both cases.

The writer thinks that a sliver guide should be wide enough to allow the bulk of sliver strands to be drafted properly without putting any extra load in the action of the drawing rolls. On the other hand, if a narrow guide is used, permitting the sliver strands to overlap during the drafting process, the efficiency of parallelism will be lost at the drawing frame. This essential parallelism of fibers has a very direct bearing on the drafting value of drawing process. Once it is lost, there is nothing one can do to improve the quality of work in the following processes. The foregoing is my contribution.

There is an important factor which we must remember when changing sliver guides from one width to another. This factor is the draft between the front delivery rolls and the calender rolls. In order to have the proper tension in the sliver web the calender roll gear has to be changed in accordance with the width of the sliver guide. A narrow guide calls for a larger gear, and, of course, a wide guide calls for just the opposite.

Probably those of you who have sliver testing machines could tell the readers of COTTON if the width of sliver guides has any direct bearing on the increase or decrease of drafting value at the drawing frame. The writer will greatly appreciate any comments on this subject.

CONTRIBUTOR NO. 7153

Grinding Card Flats

AN INQUIRY to the editors of COTTON asked for mill practice with regard to the grinding of card flats, as follows: "Is it better to grind the flats on a card while the rest of the card is grinding or not?" This question was referred to two overseers of carding, who replied as follows:

Answer 1. The best time to grind the card flats is while grinding the rest of the card. While I have never ground the flats one card behind the regular grinding, I know carders that do this. The only reason for so doing that I can see is that it takes about twice as many grinding drum bands to grind the flats while grinding the rest of the card. This is because a straight band has to be run, while if the flats are ground with the stock going through the card a crossed band is used. However, when the flats are ground while stock is processed in the card, there is a certain amount of emery and black dust going into the stock, which is very bad.

It is also much better to be grinding all on one card than to be grinding on two as far as oiling of the grinding equipment and cleaning is concerned.

The general practice among carders today is to grind flats while grinding the rest of the card. I believe that the advantages in grinding the flats with the rest of the card outweigh any advantages that may be gained by grinding them at another time.

Answer 2. There are almost as many different opinions about grinding flats as there are carders. Each carder has his own idea about when and how the flats are to be ground.

Naturally, they should be ground just before they get dull. How long is it before the flats get dull depends upon several factors, such as, kind of stock, amount of stock passing through the card, and how the stock is prepared before it gets to the card. The condition is not likely to be the same in any mill.

Now, as to grinding the flats with the rest of the

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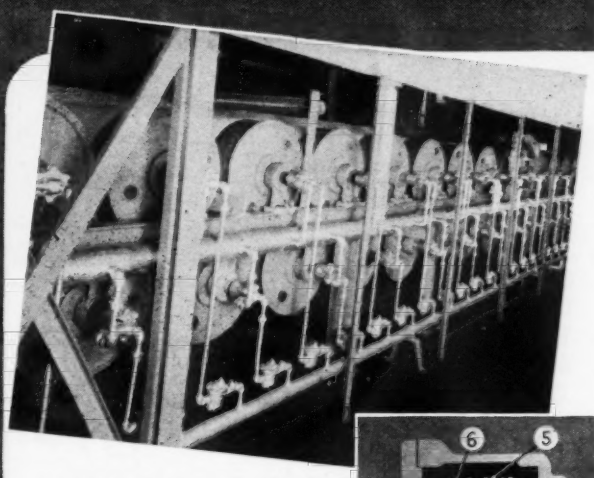

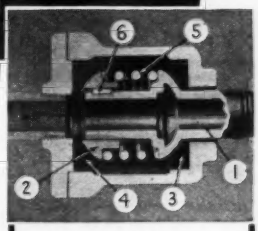

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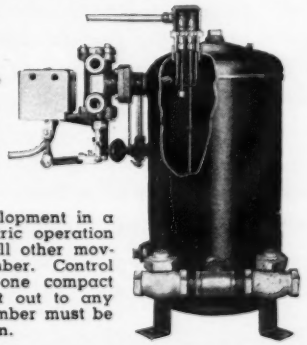

Use the Johnson Electrap for: lifting or pumping liquids, draining systems under high vacuum, and boiler feeding.

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Use Wool Tops combed by this superior method available in sliver form or cut to specified lengths. Specify ARLINGTON COMBING when ordering from your top maker. Address combing inquiries to our Boston office.

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card or separately, some men grind the flats before grinding the rest of the card, while others grind after the card has been put back into production after grinding.

I prefer to grind the flats while grinding the rest of the card. This makes it possible for the grinder to check and tend all his grinding rolls on one card simultaneously.

I also prefer to grind the flats each time we grind the card and grind very lightly.

Washboard Shuttles

EDITOR COTTON:

Washboard or wavy shuttles can be caused by a number of things, and as "CONTRIBUTOR NO. 7033" has asked for the causes and remedies, I will list some of the things that I have found to cause this trouble. His question appeared on page 87 of the March issue of COTTON.

1. Rough or uneven reed.
2. A reed that is limber or made of wire that is too small for the weight of the weave for the beat and speed of the loom.
3. A reed with high dents.
4. A reed that is not square with the race and lined up with the back box plate on both ends of the lay.
5. Filling fork grate not being lined up with the back box plate and the reed.
6. Improper paralleling of the picking motion of the loom due to worn parts in the picking motion and the parallel motion.
7. Poorly set picker on the stick.
8. The tip in the shuttle not being the proper distance from the reed side of the shuttle to throw the center part of the tip in the center of the lay slot. Picker sticks should move in the center of the lay slot and the picker should be straight and square on the picker stick.
9. It is essential that the tip of the shuttle be as near in the center of the lay slot as possible when the shuttle is against the back box plate.
10. The swell of the binder being too great for the shuttle, especially, at the back end, because this has a tendency to require the opening of the box to be greater than it should be and then the shuttle is thrown against the reed immediately as it enters the shed.
11. The shape of the shuttle and the shape of the binder swell should conform to each other.
12. The bottom shade of yarn should be correct on the lay for the shuttle to pass over. It should be level and not high on one selvage.
13. The correct opening of the shed according to the size of the shuttle is necessary.
14. The correct timing of the loom as to the opening of the shed and also to the picking of the shuttle is essential.
15. Sometimes washboarding is caused by the sand roll being too high.
16. Too much power on the loom will cause washboarding.

CONTRIBUTOR NO. 7038

Causes of Goods Not Taking the Required Amount of Picks

1. Warp is too loose.
2. Not enough tension on the filling.
3. Reed frame springs are too loose.
4. Uneven filling.
5. Goods will not take picks because the filling is too heavy.

Causes of Poor or Uneven Edges

1. The warp is made too narrow.
2. Edges will not take the required picks.
3. Shed is uneven or too small.
4. Not enough tension on the edge.
5. Too little tension on the filling.
6. Too much tension on the filling.
7. Too much pick.
8. Shed closes early or late.
9. Loom picks early or late.
10. Too many ends per dent in the reed.
11. Shuttles rebounding in the shuttle boxes.
12. The filling catches on the filling fork or elsewhere.
13. Quills are too hard.
14. Cut tension rings or broken porcelain eyes.
15. Sharp reed.

FORD

An Old-Timer Says—

(*Continued from page* 96.)

be that the money they had would have no value.

Sure, JIM, but can you tell me where, and what, the value is behind the money we are using today, and what will be its value if Hitler conquers the world and says all of our hoarded gold is not money?

Heck, now, OLD-TIMER, *let's get back to looms, cards, and spinning frames.*

O. K., JIM, then I'll ask you what would become of a mill if it could be built a thousand miles from any other mill, where no other people could get to it and none of its operatives, overseers, etc., could get out to see another mill—

No use to go any further, OLD-TIMER, *I can tell you it would, in two or three generations of its people, be so darn far out-of-date that its product could not be sold. Say,* OLD-TIMER, *don't you suppose this draft business is going to take a bunch of young fellows out of the mill and open up a few more opportunities for jobs?*

We don't need any draft to open up new jobs for the fellow who looks at the future of the textile business in the right way, JIM.

What you mean the right way, OLD-TIMER? *You hear so many men complaining about there not being any more good opportunities for a fellow to get promotion.*

There are more opportunities than ever, JIM. The trouble with most men is that they are either too lazy or too near-sighted to see them. The very fact that the textile industry has changed so radically in the last

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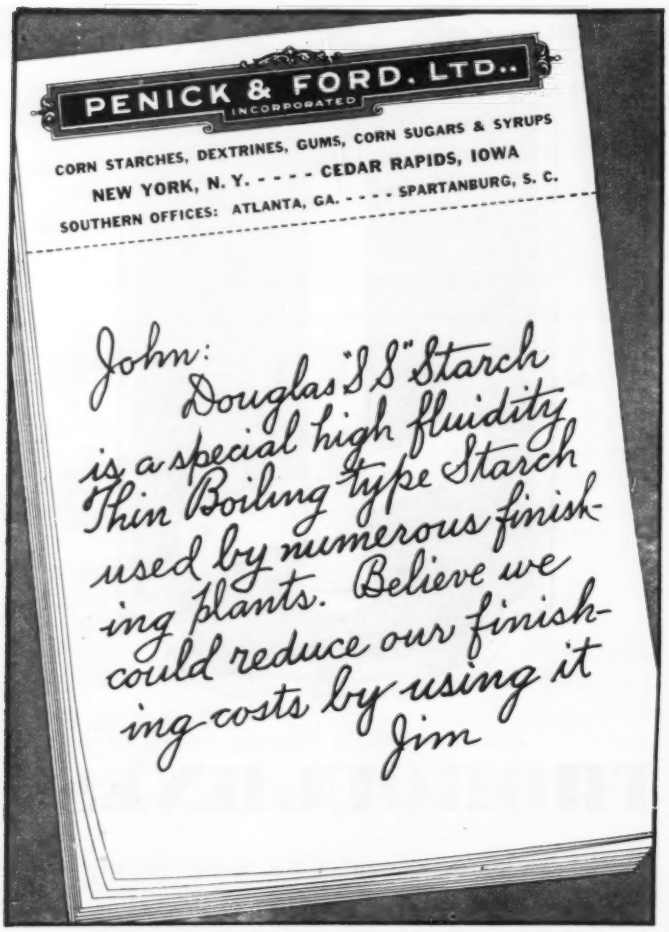
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few years means that there are just that many more opportunities for men who are above the average—men who have initiative—men who really have their hearts in their work. Any notion that the textile business, or any other industry, hasn't a place or need for new blood and ability is simply a near-sighted mistake. Change makes opportunities, and any textile man knows we are certainly experiencing wonderful changes in textile manufacturing with all the new fibers and combinations of fibers. And, the introduction of these new fibers into textiles has brought about many changes in cotton and wool manufacturing, changes which have brought new and different problems to the superintendent and the overseer and to the section men, all of which call for new brains. Theory would dictate that the young textile man would profit most by this call for new brains, but in actual practice the man who has a background of practical manufacturing experience has the advantage, *providing* he is alert enough and ambitious enough to study the new manufacturing problems and prepare himself to meet them.

Chemistry, JIM, is becoming more and more one of the important subjects the textile overseer and superintendent must study in order to keep abreast of the times; this could be no better illustrated than by the experience we have all had in trying to learn how to "size" or dress the warps made of the new fibers, and in the treatment of those warps from a weaving standpoint. Air-conditioning, to my mind, JIM, has not yet been studied from a textile plant standpoint as it should be. In fact, the textile industry having always been composed of comparatively small units, individually controlled, has prevented any co-operative effort toward research; that is, the textile industry has never spent any appreciable amount of money on research and until some smart fellow does find a way to tax, allot, or otherwise raise sufficient money to carry on research in this industry comparable to other large industries, such as General Electric, Westinghouse, General Motors, Ford, A. T. & T. Company, and others, it will be laboring along fifty years behind the times like it is today.

But, back to the thought of opportunity. Don't forget, JIM, that any man, young or old, who can contribute some brains to all these new problems, which are popping up almost daily now, will of course be able to cut himself quite a large piece of cake. I am not thinking only of new mills that are using the new fibers, but the old mills, too, have to look forward to even more efficient manufacturing in order to meet the ever increasing demand for cheaper but better products, and if the brain of some man, or the combined brains of a group of men, ever perfect a system that will get the product of the textile mill to the consumer without doubling and trebling the cost of manufacturing before it gets to him, the problem of new uses for cotton will be solved, and, incidentally, he, or they, will be able to write personal checks in seven figures. Like most other industries JIM, it costs too darn much for the textile industry to get its product to the ultimate consumer. There sure is something rotten in Denmark about——

Hold on, OLD-TIMER, *I can answer that one. It's Mister Hitler!*

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30. Lubrication of Textile Machinery—32 pages illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts, showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. SKF in the Cotton Mills—24 page bulletin describing bearing installations for practically every machine in the textile industry including roller bearing spindle and tension pulley. SKF Industries, Inc., Philadelphia, Pa.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

110. 3-in-One Oil for Industrial Uses—showing the many industrial uses and advantages of this oil. A. S. Boyle Co., Jersey City, N. J.

116. Arcy—Telling in an interesting way the story of Arcy, which completely liquefies ordinary thick boiling pearl starch and its many advantages. Drake Corporation, Norfolk, Va.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Bearings Div., General Motors Corp., Harrison, N. J.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

139. Textile Detergents—Theory of the use of alkalies and control of pH—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergent in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

141. V-Belt Engineering Data Book—Over 50 pages of pertinent engineering information including data on selecting a V-belt drive design of special V-belt drives, numerous standard tables, charts and belt and sheaves list prices. Manhattan Rubber Manufacturing Div. of Raybestos-Manhattan, Inc., Passaic, N. J.

154. Johnson Bronze Bulletin No. 340—showing over 300 sizes Johnson general purpose bronze bushings. Johnson Bronze Co., New Castle, Pa.

155. Link-Belt Catalog 1574 on the P. I. V. Gear—giving details of this positive variable speed control. Link-Belt Co., 307 N. Michigan Ave., Chicago.

156. Link-Belt Engineering Data Book No. 125—showing features and giving engineering data on Link-Belt silent chain drive. Link-Belt Co., 307 N. Michigan Ave., Chicago, Ill.

157. Grading Rules and Complete Specifications for Laying And Finishing Maple Floors—Maple Flooring Manufacturers' Association, 1794 McCormick Bldg., Chicago, Ill.

163. Roto-Koner—Bulletin describing the new No. 44 Universal Winder, known as the Roto-Koner for winding knitting yarns, which has many new and distinctive features. Universal Winding Company, P. O. Box 1605, Providence, R. I.

164. Johnson Rotary Pressure Joints—Bulletin describing the rotary pressure joint which requires no packing, no lubrication and no adjustment, giving installation and maintenance instructions, types, sizes, dimensions and prices. The Johnson Corp., Three Rivers, Mich.

168. The Tube-Tex for Tubular Knit Goods—Bulletin describing this modern machine which extracts, processes, dries, conditions and folds in one continuous operation, lowering costs, saving labor, power, space and waste. H. W. Butterworth & Sons Co., York and Cedar Sts., Philadelphia, Pa.

170. Gates Textile Accessories—showing the increased efficiency and economy to be secured through the use of Gates cone belts, evener belts, card bands and loom binder cushions. The Gates Rubber Company, Denver, Colo.

171. Design of V-Belt Drives—48 page booklet full of valuable tables and data showing the type, number and design of V-belts that will give the greatest efficiency on each particular drive. The Gates Rubber Company, Denver, Colorado.

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184. Speed Control Handbook T-35—new reference book on variable speed control, said to be the most complete and helpful book on this subject ever published. 112 pages and more than 200 illustrations of interest to every production executive, purchasing agent, superintendent, overseer and master mechanic. Reeves Pulley Co., Columbus, Ind.

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188. Form 495—This form enables you to gather your own cost data on your sewing machines and determine whether new Union Special Machines will show big savings. Furnished free by Union Special Machine Co., 400 N. Franklin St., Chicago, Ill.

213. Saco-Lowell Cotton Machinery—Twisting—a 36 page illustrated brochure explaining the company's twisters and parts, including the four basic type twisters, features of new construction and general notes on twisting. Production calculations and specifications are included. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

214. Saco-Lowell Cotton Machinery—Spinning—the second edition of a 56-page booklet, illustrated with the company's product and containing valuable charts, production tables and other spinning data. Saco-Lowell Shops, 147 Milk St., Boston, Mass.

218. Butterworth Electric Guiders—6-page folder describing and illustrating the new Butterworth Electric Cloth Guider. This guider is built on the same principle as the Foxwell Air Guider and is unexcelled for fast, accurate guiding. H. W. Butterworth & Sons Co., Philadelphia, Pa.

223. Alloyed Iron in Southern Industrial Fields—16 page illustrated catalog dealing with the properties available in modern cast irons. International Nickel Co., 67 Wall St., New York, N. Y.

224. "Tank Talk"—Sixteen page booklet of illustrations showing various types of elevated steel tanks, constructed and erected by manufacturers as well as stand pipes, reservoirs, storage and high pressure vessels, cylinders, along with helpful technical data. Also a list of what a few of the cotton mills, etc., said. R. D. Cole Manufacturing Company, Newnan, Georgia.

233. Catalog No. 22—an attractive illustrated catalog describing in detail the Shamrock shipping containers and the new canvas trucks for textile use. Meese, Inc., Madison, Ind.

234. They Stay Brighter Longer—This interesting illustrated booklet containing facts about Mazda lamps will be sent you free on request. General Electric Company, Dept. 166, Nela Park, Cleveland, Ohio.

240. The New Proctor Automatic Yarn Dryer—6 page illustrated folder describing the new Proctor automatic yarn dryer which has the exclusive new Proctor traveling skein protector. Proctor & Schwartz, Inc., Philadelphia, Pa.

253. Brown Air-O-Line Controllers — This booklet will prove invaluable to the men in charge of dyeing, finishing and slashing, as well as the textile executive. 32 illustrated pages describing the various Brown Controllers. The Brown Instrument Co., Philadelphia, Pa.

258. Automatic Overhead Cleaner for Spinning, Winding, Warping and Twisting—24 page booklet showing the new American MonoRail automatic cleaner in operation on MonoRail track circuit over Spinning, Warping, Winding, Twisting, etc. This cleaner incorporates a new scientifically designed blower producing a whirling column of air directed and controlled so that it prevents accumulation of fly with no harm to roving. The American MonoRail Company, Cleveland, Ohio.

260. Lubrication—This attractive booklet contains valuable and interesting articles on loom lubrication and also on spinning design and the function of spindle oils. The Texas Company, New York, N. Y.

261. The Brown Moist-O-Graph—16 page booklet describing the Brown Moist-O-Graph which measures, records and controls the moisture content of cotton warp yarns. The Brown Instrument Company, Philadelphia, Pa.

263. Gastonia Brushes—New catalog and price list showing the complete line of brushes for the textile mill. Gastonia Brush Co., Gastonia, N. C.

272. Where to Buy Monel Metal Textile Equipment—Attractive booklet which lists the name and addresses of experienced fabricators of Monel Metal equipment for the textile mill. The International Nickel Company, Inc., 67 Wall St., New York, N. Y.

284. Morton Nickel Iron Quick Opening Handle Gate Valve—Illustrated leaflet describing the new Morton Valve for dyeing machines, pipe lines, steam and water lines, boiler blower valves and throttle valves. Manufactured in nickel, stainless steel and stainless steel trim. Morton Machine Works, Columbus, Georgia.

286. Triton W-30—Study of wetting agents and their activity with recommendations for textile processing. Rohm & Haas Co., Philadelphia, Pa.

289. Caustic Soda Bulletin—a data and reference book designed for the user of caustic soda. Complete with charts, drafts and formulas. Pennsylvania Salt Mfg. Co., Philadelphia, Pa., who also manufactures Hydrogen Peroxide.

290. Hyatt Roller Bearings on Textile Machinery of All Kinds—34 page booklet which describes and illustrates how Hyatt bearings are being applied to textile machinery. Hyatt Bearings Division, General Motors Corp., Harrison, N. J.

295. Fence Facts—A new booklet illustrating and describing chain link fence in a variety of styles and four different metals for every type of fencing installation. Also wrought iron fence in various beautiful styles. A concise handling of information for those wanting facts about fence. Page Fence Association, Bridgeport, Conn.

296. Full-Fashioned Hosiery Manufacture — Illustrated folder giving the history of full-fashioned knitting and describing in detail the different processes in present day manufacturing and the application of Gulf lubricants to the various machinery. Gulf Oil Corporation, Pittsburgh, Pa.

301. Norma-Hoffmann Bearings Catalog — Norma-Hoffmann Bearings Corp., Stamford, Conn.

305. Tannate Belting — leaflet describing Rhoads Tannate leather belts and their uses and advantages in textile mill operation. J. E. Rhoads & Sons, Philadelphia, Pa.

307. Lane Canvas Baskets—16 page illustrated booklet describing the Lane line of canvas baskets for textile use. W. T. Lane & Brothers, Poughkeepsie, N. Y.

308. Finnell Scrubbers—illustrated leaflets describing and giving specifications for the new Finnell floor scrubbing machines. Finnell System, Inc., Elkhart, Ind.

311. The Romance of Prairie Gold—attractive illustrated book which tells the story of corn and the uses of corn products in industry. Corn Products Sales Co., New York, N. Y.

312. Cork—The Modern Roll Covering—attractive booklet outlining the uses and advantages of cork for textile roll covering. Armstrong Cork Products Co., Industrial Division, Textile Products Section, Lancaster, Pa.

314. Winding Production Chart—this useful production chart can be used for any style of winder. Also included are instructions for figuring yarn take-up speeds. Universal Winding Co., Providence, Rhode Island.

315. How Handling Problems Have Been Solved—a 50-page booklet presenting in pictorial form many solutions to industrial handling problems and showing how they reduce costs, save labor, eliminate storage and provide free movement of stock between processes. American MonoRail Company, 13106 Athens Ave., Cleveland, Ohio.

317. Circular Knitting Machines—a fifty-two page illustrated booklet containing valuable information on the manufacture of transfer top hosiery. Includes illustrations of rib knitting principles, yarn changers, salvage welt, loose course and methods of laying in Lastex. Sent free on request to Fidelity Machine Company, 3908 Frankford Ave., Philadelphia, Pa.

322. The Application of Soaps and Soap Products to Textile Processing—48-page illustrated booklet covering the principal operations in textile processing. Special notes and suggestions are given for those operations requiring soaps or soap products. Colgate-Palmolive-Peet Company, 105 Hudson St., Jersey City, N. J.

323. Textile Processing with Arlie Syntex A and T—50-page illustrated booklet describing the properties of these new materials and giving tentative or suggested formulas for a number of applications in textile processing. Colgate-Palmolive-Peet Co., Jersey City, New Jersey.

327. Sanforizing Machinery—illustrated booklet describing the sanforizing machinery offered by the Textile Finishing Machinery Co., Providence, R. I. This bulletin is available only to finishing plants or executives thereof.

CONTINUED ON PAGE 110

CONTINUED FROM PAGE 109

330. Tools for the Textile Trade—a twelve-page booklet illustrating and describing specially selected tools for all textile mill departments—Loom Fixers, Spinning Room Fixers, etc. Snap-on Tools Corporation, Kenosha, Wisc.

331. Unbrako Self-Locking Hollow Set Screw—Bulletin Form 532 includes illustration and descriptive matter of this latest improvement in socket and screws. This bulletin also features the complete line of "Unbrako" Socket Screws. Standard Pressed Steel Co., Jenkintown, Pa.

332. Hard Maple Flooring—an 8½ x 11-inch folder featuring a close-up of Northern Hard Maple Flooring and specimen pieces to show grades, prepared for the convenience of architects, builders and others when considering flooring grade requirements. Maple Flooring Mfrs. Assn., 1794 McCormick Bldg., Chicago, Ill.

333. Fafnir Ball Bearings for the Textile Industry—Outlining the applications and advantages of ball bearings on textile machinery. Fafnir Bearing Co., New Britain, Conn.

334. Precision Winding for Silk and Rayon Yarns—Describes the new No. 50 Leesona Winder and all attachments that are used for silk hosiery threads and rayon yarns. Universal Winding Co., P. O. Box 1605, Providence, R. I.

335. Casters and Wheels—192 pages, describing casters and wheels suitable for all types of industrial application. Every mechanical engineer and purchasing agent should have this. Darnell Corp., Ltd., P. O. Box 4027-N, Station B, Long Beach, California.

337. Sizing and Finishing—A pamphlet which will give the mill man an understanding of starch properties which will lead to greater efficiency in sizing and finishing. Stein, Hall & Co., Inc., New York City.

338. Thickening Materials for Textile Printing—Describing materials and methods employed in preparation of color thickening so that it may be properly and economically transferred to cloth through the medium of the printing machine. Stein, Hall & Co., Inc., New York City.

340. Notes on Cotton Warp Sizing—a 45-page handbook giving valuable data on the purposes and properties of various sizing products, their uses and preparation, with much information on the operation of slashing equipment. Will help solve many sizing problems. Address The Hart Products Corp., 1440 Broadway, New York City.

343. SKF Better Spinning and Twisting—16-page illustrated catalog containing technical information relating to construction and performance of SKF roller bearing spindles, tension pulleys, guide and idler pulleys and miscellaneous pulley and bearing applications. Distributed by all leading textile machinery manufacturers and SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

346. Dependable Finishing for Modern Elastic Top Hosiery—describing and illustrating equipment for basting and attaching insert elastic, attaching wide or welt elastic and seaming elastic in women's hosiery. Union Special Machine Company, 400 North Franklin St., Chicago, Ill.

347. Rhoplex Resins—Attractive folder discussing the outstanding properties of these Aqueous Dispersions with suggestions for their application to textiles. Rohm & Haas Co., Inc., Philadelphia, Pa.

348. Johnson Ledaloyl Bearing Bronze—Illustrated booklet telling the complete story of Johnson Ledaloyl Bronze, the newest development in self-lubricated bronze for textile bearings and bushings. Johnson Bronze Company, New Castle, Pa.

350. Theoretical and Applied Silk-Soaking—Attractive 28-page booklet outlining methods of silk-soaking and outlining investigations on the soaking, backwinding and degumming of silk. Hart Products Corp., New York City.

351. Wetsit—Leaflet describing Wetsit, a synthetic aromatic compound with excellent surface tension reducing properties; gives rapid wetting out and thorough penetration; available in three strengths. Jacques Wolf & Co., Passaic, N. J.

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355. Air Conditioning in Cotton Spinning—A technical discussion of the need of adequate humidification and controlled air change in the spinning room of the textile mill of today. Ask for Bulletin 539. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, North Carolina.

356. Parks Textile Specialties—A 14-page bulletin with brief descriptions of the Parks line—Automatic Airchanger—Central Station and Unit Air Conditioners—High Duty, Turbo and Turbomatic Humidifiers—Automatic Regulation—Traveling Cleaners—Portable Dustless Card Stripper—Humidifier Valves and Accessories. Parks-Cramer Co., Fitchburg, Mass., and Charlotte, N. C.

357. Caro-Gant—The Original 100% Active Warp Dressing. Attractive folder describing Caro-Gant, the Warp Dressing that makes stronger, more elastic warps with a maximum breaking strength and a minimum reduction in elasticity. Hart Products Corp., New York City.

358. Rhonite Emulsions—Attractive bulletin describing the Rohm & Haas complete line of Urea Formaldehyde Resins for Textile Finishing. Rohm & Haas Co., Philadelphia, Pa.

361. Thaumaphos—The textile detergent—Seven page booklet describing Thaumaphos, the wonderful phosphate. Included is a list of the Thauma brands and a survey of their uses in the wet finishing of textiles. Detergent Products Corp., Atlanta, Ga.

362. Leather Belting Calculator—Handy and attractive calculator for determining belt speeds, horsepower per inch of belt widths, etc., will be sent free on request. J. E. Rhoads & Sons, Philadelphia, Pa.

363. Form 769, Condensed Catalog—a 40 page pocket size booklet illustrating and describing sewing machines adaptable for practically all phases of the needles trade. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

364. The Superlock—Form 828—an attractive two-color illustrated 6-page folder describing the "Fastest Overseaming Machine in the World." Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York City.

366. Houghto-Size SR—Leaflet describing a new sizing compound for spun rayon warps which provides high breaking strength, greater elasticity and increased weave-room production at low cost. E. F. Houghton & Co., Philadelphia, Pa.

367. Rayon Oils—Leaflet describing three Houghton products used for throwing rayon filling yarns for weaving, as softeners in gelatin and similar solutions used for sizing and as softening oils for yarns, knitted and woven fabrics. E. F. Houghton & Co., Philadelphia, Pa.

368. Surfax W.O.—Leaflet describing a new surface-active chemical which possesses unusual wetting out and softening properties. E. F. Houghton and Company, Philadelphia, Pa.

369. Lunkenheimer Catalog 78—136 page catalog describing a complete line of Bronze, Iron and Steel Valves, Boiler Mountings, Lubricating Devices, Air Devices and other specialties. Also included is a section on the thermo-dynamic properties of steam, and a table of shipping weights. The Lunkenheimer Co., Cincinnati, Ohio.

370. Notes on Exsize—Attractive new booklet describing the use of Exsize for desizing fabrics. Included is a review of general sizing and finishing and a flow chart showing the cotton and rayon finishing processes. Pabst Sales Company, 221 North LaSalle St., Chicago, Ill.

371. Aluminum in the Chemical Industry—Published by Aluminum Company of America. Fifty-two pages. Text and illustrations covering adaptability of aluminum and aluminum alloys to chemical industry applications and characteristics governing recommended uses. Aluminum Company of America, Pittsburgh, Pa.

372. Stewart Fences—Illustrated catalog which is a complete text on the subject of fence for industrial uses. Stewart Iron Works Company, Inc., Covington, Kentucky.

373. The Bowen Spinner's Record Book—Handy leather bound notebook which contains a world of useful information as well as tables for keeping accurate spinning data. U. S. Ring Traveler Company, Providence, R. I.

374. Fidelity Spooling Machines—Illustrated booklet describing the Fidelity Spooling Machine and outlining its many applications in the textile industry. Fidelity Machine Company, Philadelphia, Pa.

376. Leather Booklet No. 202—Attractive booklet illustrating and describing BONDARON Special Tanned Leather as used in various forms such as Check Straps, Pickers, Harness Straps, Lug Straps, Bumper Straps, etc. Also describes BONDARON Special Tanned Solid Round Leather Belting, Flat Belting and Standard Oak Tanned variety of Leather Belting. Chas. Bond Co., Philadelphia, Pa.

377. The Morton System—Illustrated literature describing the Morton Improved double circulating raw stock dyeing and bleaching machine, the Morton horizontal revolving beam and package dyeing machine and beam bleaching machine, the Morton vertical package and roving dyeing machine. Morton Machine Works, Columbus, Ga.

378. The Victor Circle-D Traveler—Pamphlet describing this important advance in traveler design. Victor Ring Traveler Company, Providence, R. I.

379. Tensometer—Leaflet describing the Tensometer—the new handy device for testing the tension in warping, winding and quilling. Sipp-Eastwood Corp., Paterson, N. J.

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388. Key Products for Textile Industry—22 page leaflet describing textile specialties used in dyeing, bleaching, and finishing as applied to Southern textile industry from Southern plants of American Cyanamid & Chemical Corp., 822 West Morehead St., Charlotte, N. C.

389. Fibre Conditioning with Texspray Compound—30 page booklet on treating of cotton or cut staple fibers with Texspray Compound including the advantages and development of fiber conditioning. The Texas Co., 135 E. 42nd St., New York City.

390. Yarn Conditioning and Twist-Setting—Tenesol booklet on new conditioning agent for textile yarns. Burkart-Schier Chemical Company, Chattanooga, Tennessee.

391. Repair Parts for Textile Machinery—36 page booklet and catalog on replacement parts for opening, picking, carding, spinning and twisting machinery. Henderson Foundry & Machine Works, Hampton, Ga.

392. The Mapro Series—34 page book describing the use of detergents in general textile mill work. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, New Jersey.

393. The Onyxsans—24 page book describing the application of cation active permanent softeners in textile processing and finishing plants. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

394. Vat Dye Labels—Booklet on labeling for textile and apparel fields for both woven and knitted goods. Jackmeyer Label Corp., 62 West 14th St., New York City.

395. SKF Industries Spherical Roller Bearings—36 page catalog on bearing applications and selection, also time saving computations. SKF Industries, Inc., Philadelphia, Pa.

396. The Textile Application of Metasol (Calgon)—handbook with detail information covering the use of Metasol in Scouring, Bleaching, Dyeing and Finishing. Burkart-Schier Chemical Co., Chestnut St., Chattanooga, Tenn.

397. It's the Machine Age—But your profits depend also on the Man Behind the Machine. 16 page booklet on textile mill insurance. Protective Life Insurance Company, Birmingham, Ala.

398. Card Grinder Information—Folder on care of card grinders, part replacements, etc. B. S. Roy & Son Co., Worcester, Mass.

399. Truck Casters and Wheels—24 page illustrated catalog covering casters and wheels for all truck use with specifications. The Fairbanks Company, New York City.

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401. Hand Trucks—24 page catalog on hand trucks for plant and warehouse use. The Fairbanks Company, New York City.

402. Link-Belt Friction Fighter Bearings—88 page illustrated catalog of ball and roller bearings for economical power transmission and maintenance expense. Link-Belt Co., Chicago, Ill.

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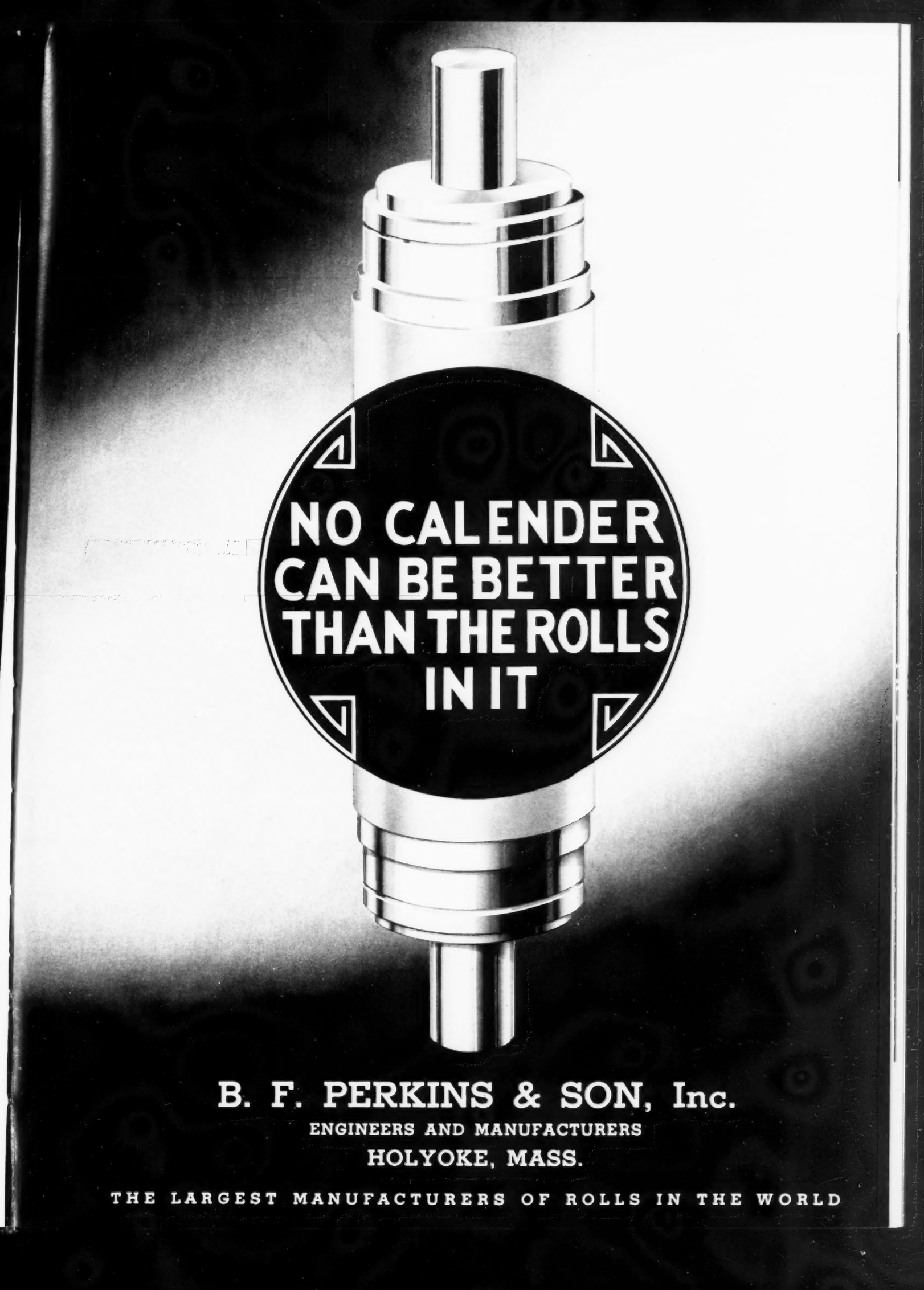

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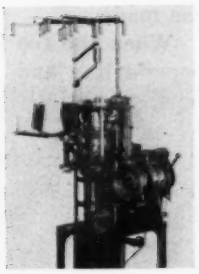
KNITTING SECTION

The Komet Machine

Article 2



The Komet and The Fixer

IN the first article of this series, in the December 1940 issue of COTTON, we attempted to cover the Komet machine as it concerns the knitter, and now we shall consider this machine from the fixer's point of view.

By the "fixer's point of view" we mean particularly fixers who have had considerable experience on other types of knitting machines and have just begun or are about to begin working on Komets. It may be safe also to include fixers who have been transferred to Komets and have six months or less actual experience behind them.

From the writer's experience, there is an indication that most men immediately become anxious to fix *before* they have really studied the machine thoroughly; that is, before they have tried to form some very definite opinion in their minds as to what the machine *does* or is supposed to do, and before they have learned what makes it do it. Any machine fixer who has had considerable experience on other types of circular knitting machines should be able to form some very definite opinions as to what a Komet does and how the controlling mechanism functions by simply pulling up a stool or an empty nail keg and sitting down and watching the Komet run. True, there is a considerable amount of mechanism involved, but as our understanding of the various fuctions becomes broader, the various functions become simpler to us.

Wherein Komet Differs

First of all, let us see how the Komet differs from other types of circular machines insofar as what it can produce is concerned. The Komet is a combination of a ribber and a knitting machine all in one, in that it produces hose with a 1x1 ribbed top with selvage welt, with or without laid-in elastic yarn, plain or with horizontal stripes. It makes broad ribbed fabric in various combinations such as 6x3, 6x6, 9x6 and many others all around in the leg and half-way round in the foot (broad ribbed instep and plain sole) in plain or with horizontal stripes. Heels and toes can be made plain or "tipped". Top, leg and foot can be made with either single or double feed.

So, in today's Komet we have a 2-feed ribber with horizontal striping attachments and laid-in elastic yarn attachment, a 2-feed knitting machine equipped with horizontal striping attachments, plus the facilities to knit broad ribbed fabric in the leg and foot, heel and toe tipping attachments and many other features. If we stop to consider for a moment what the foregoing condensed description covers we can only marvel at what human minds can conceive and produce.

What Makes a Komet

At this time let us consider briefly some of the major and minor mechanisms which make today's Komet what it is and which give it a very broad range of production possibilities. First of all, it has two needle cylinders, a lower and upper cylinder of the revolving type. Both cylinders are driven from one main shaft and suitable gears are provided which eliminate all lost motion so that both cylinders revolve or reciprocate in unison.

The bottom cylinder has sinkers, which operate somewhat in the same manner as those on other knitting machines; the cams that control the sinker movement are located on the inside of the cylinder instead of on the outside; the cams are stationary and therefore cannot be adjusted, but simply form a race in which the sinker butts travel.

The upper cylinder is almost a duplicate of the lower cylinder except that it is fastened to the upper frame of the machine and hangs down. Also, the upper cylinder does not have sinkers, but is provided with a brass dial known as a verge, and the verge in turn is equipped with jacks or bits which are permanently fixed into the outer surface of the verge and serve as a substitute for sinkers. Sufficient space is provided between the cylinders to accommodate the verge and the knitted fabric. Each slot in both the upper and lower cylinder is provided with a slider which means that a 200-needle Komet has 400 sliders all told.

Needles are double-ended; that is, they have latches and hooks on both ends but do not have a butt. Sliders are provided with hooks into which one end of the needle is hooked; the sliders also have two butts, one known as a knitting butt and the other as a transfer butt. The knitting butt answers the same purpose as the butt on an ordinary needle and the transfer butt provides the means for transferring the needles from the bottom cylinder to the top, or vice versa.

The controlling mechanism which permits the automatic shifting of needles from one cylinder to another is what makes the Komet so different; in

fact, it is precisely what make the Komet.

Those of us that have fixed on the Models HH, RI and K machines remember that during the knitting process the loops or stitches are transferred from dial jacks or hooks to the cylinder needles on these machines. On Komets, stitches are not transferred, but the *needles are transferred* or shifted according to the slider set up. At a given predetermined point or points, the needles stop knitting in the bottom cylinder and begin immediately to knit in the top cylinder, or vice versa.

Before proceeding, the writer will relate an incident taking place about two years ago as it brings out a point previously mentioned, namely, the importance of studying the machine thoroughly and finding out what it does, how it is done, and why.

A Komet fixer, who was getting along nicely and had almost two years experience, asked the writer "why does this machine need a verge?" For a moment the writer was dumbfounded. The fixer in question was one who would follow detailed instructions to the letter, records proved that he was getting results, he was making adjustments to stop trouble, and in "fixer parlance" he was getting by. He had failed, however, to grasp or understand one of the fundamental principles which has much to do with the successful operation of the Komet machine.

The writer explained the necessity of the verge as follows: While the top is being made, we use half of the needles in alternate slots in the top cylinder and half of the needles in alternate slots in the bottom cylinder; this produces a 1x1 rib fabric, just like a ribber does, using alternate needles to knit in the dial and cylinder. When we change from 1x1 top to 6x3 leg we need something between the needles that draw up in the top cylinder, just as we use sinkers between the needles that we draw down in the bottom cylinder.

The foregoing fixer knew how to make verge adjustments but he was not quite sure just why the verge was there.

The Komet Makes a Sock

For readers that are not entirely familiar with Komet machines, the writer will attempt to describe the making of one complete sock on paper. At the completion of each sock the machine makes the looper margin, sometimes called looper rounds. At this point all needles are knitting in the bottom cylinder. Beginning to make the next sock, alternate needles are transferred to the top cylinder and the draw thread is engaged for one and one-half rounds, the welt is made and the machine goes into 1x1 rib knitting. When the desired length of 1x1 is completed, the double transfer is made as the machine changes to 6x3 leg fabric. By double transfer we mean that certain needles are being transferred from the top cylinder to the bottom cylinder, and from the bottom cylinder to the top cylinder simultaneously, which is the beginning of broad rib fabric or the leg.

At a given point, before the heel knitting begins, all broad rib needles in the top cylinder (which are directly above the short and medium butt sliders in the bottom cylinder) are transferred down so that plain knitting is done in the heel. The machine reciprocates and picks butts up and down like other machines. All broad rib needles in the instep remain up in the top cylinder during the heel knitting. After the heel, foot knitting continues with the sole plain and ribbed instep. When the foot is completed the remaining broad rib needles are transferred down to the lower cylinder, which puts the machine back to plain knitting all around, just prior to the beginning of the toe knitting, in the same manner that the heel was made.

When the toe is completed the machine makes the looper's line and is back to the looper margin once more. So, briefly, we have made a Komet sock on paper, and later in the series the writer will attempt to give some information as to what must be done by the fixer when Komets fail to behave as they should.

Yarn Changing Device

Another major part of the Komet that is worthy of direct comment is the yarn changing device. We know that all circular machines have yarn changing facilities, most of them being limited to simple yarn changes such as leg to heel, heel to foot, and foot to toe. Any yarn changes other than these call for, in most cases, a horizontal striping attachment. A few years back the writer was asked if the Komet could be purchased with or without a horizontal striping attachment and the answer was "no". Komets do not come with or without a horizontal striping attachment —they come with a complete yarn changing device which is part of the machine and not an added attachment.

This device makes all ordinary yarn changes, plus horizontal stripes, plus laid-in elastic, plus heel and toe tipping. It is not governed by pattern drum moves or cycles, or by idling devices, etc. The only requirements are a handful of different kinds of chain links. It is the only yarn changing device that can be changed from one stripe combination to another almost as fast as present day buyers can change their minds, and brother, that is fast.

Starting Up Komets

Before we get into the interesting business of fixing Komets, it may interest some Komet fixers to know how the other fellow starts up new Komets, just out of a crate. But let us go back to the factory for a moment.

Your machine is brought to the test line at the factory from another department; it is fully assembled with all the trimmings; sliders are in the cylinders and the machine has been limbered up. The machine has been checked carefully and put through all the motions of knitting a complete sock, but up to this time it has not actually knit a single stitch because it does not have any needles. The tester's job is to make the Komet knit and to see to it that it is set up according to the buyer's instructions. The tester has a list of written instructions that tell him where to begin and how to proceed, step by step. These instructions are known as The Komet Test.

The tester removes all cam sections and the upper cylinder and begins his check-up, making adjustments as he goes along. All told, this check-up cov-

"... and we're getting fewer seconds since we began knitting with TMW Needles."

ers some 35 or 40 items which include fitting and shaping various parts that are in a semi-finished state up to this time. When he has proceeded to a given point, needles are put in the lower cylinder and plain knitting begins. Then more endless checking, fitting, polishing and adjusting takes place until your Komet has been re-assembled and is ready to do some rib knitting. If memory does not fail me, about two days or more are spent by *one* man on *each machine* from the time he gets it until he okehs it and sends it to the shipping department.

Each tester has an individual place to work and is well supplied with tools and equipment necessary to do the job. Contrary to the opinion of some fixers, machines are not thrown together in a hurry, and the tester is not pushed; he has a tedious job to do and is given whatever time it requires to do the job as nearly 100 per cent perfect as it is possible to do. Before the machine goes to the shipping department, it is knitting the kind of hosiery it will make in the mill and it is given a personal okeh by the head of the testing department.

So, while you are uncrating a new Komet, remember that time, effort and expense were not spared in building it. But you must remember that riding in box cars, on trucks to your mill, etc., will do your Komet no good, so check it over carefully before you attempt to start knitting. The average Komet fixer is usually in a hurry to get the machine going, but after he has helped start up 40 or 50 machines he learns that haste makes waste and invites trouble.

The best advice the writer has heard in connection with starting new machines came from a Komet service man, who said, "When you start up a new machine, do not change any adjustments such as rib stitch, frame stitch, heel and toe or verge adjustment. Put the same kind of yarn on the machine that it had when it left the factory and proceed to knit hose—then make adjustments according to your needs."

In starting up a new machine, according to the writer's opinion, it is a good idea to disconnect the upper and lower transfer bolts and first knit a few yards of plain fabric single feed. Next make plain fabric on both feeds in the frame and see that these feeds are balanced. While knitting the plain fabric, lubricate the needles, sliders and sinkers sufficiently to rid them of metallic dust present in any new machine. See that the stop motions (or needle protectors) are functioning properly and begin making heels and toes. Check heel bolt cam and rib bolt cam for clearance when going onto heel, from heel to foot, and foot to toe. Check lifters and back picker during heel and toe knitting. Also check 2-feed tackle and feeder adjustments.

If all goes well up to this point, get back to the start position and connect upper and lower transfer bolt levers. Go into first *up* transfer by hand, check draw thread feeder. Go into 1x1 by hand and check regular and auxiliary feeders. Knit sufficient 1x1 fabric and balance rib stitches on both feeds, and check verge adjustment.

Go into double transfer by hand, knit some fabric and balance broad rib stitches. Go into heel and check dividing cam for clearance. Make first *down* transfer by hand when going into heel. Make foot and transfer down by hand at ring toe. For best results do not run excessive tension on yarns, but simply enough to steady the yarn as it comes off the cone.

There are a great many other things worth checking up, such as friction on 2-feed tackle, friction on main drum, upper and lower bolt cam clearance at various transfer points, chain sprocket friction and many others.

The writer has merely hit the high spots and mentioned a few things which a group of Komet fixers have adopted as a general plan to follow when they start up new Komets. A few of the ideas are the writer's own, but most of them are the other fellows'. I am not trying to steal their thunder, but am simply passing along to the readers of COTTON what some of the boys are doing.

(The next article of this series will discuss various parts of the Komet machine, their adjustments, etc.)

K. O. METZ

Bleaching Mixed Hose

EDITOR COTTON:

We would like to know the most successful method of bleaching rayon and degumming and bleaching rayon and silk mixed half-hose which have double-resist dyed acetate clocks knitted in.

CONTRIBUTOR NO. 7168

System for Knitters

EDITOR COTTON:

What would be the best system to be applied to full-fashioned knitters in keeping the needles, sinkers, points, and bits in proper working order to insure a good fabric at all times?—CONTRIBUTOR NO. 6959.

The training of the knitter is essential if he is to keep his machine operating to make a quality fabric. Before our knitters go on a machine we have them hand plier a number of needles so that they will learn our method. We also have them work on sinkers, but this requires more practice.

After we think they are good enough to run the machine, we put them to work, but check on them constantly to see that they can keep the needles properly pliered. If he is doing something wrong, we explain what it is and try to show him the proper way.

Every night we spray the heads with an oil and rust preventive when running silk. We use the spray because we have found that it puts the lubricant on all the places.

CONTRIBUTOR NO. 7138

[Other answers to this question appeared in December 1939 issue page 124, July 1940 issue page 182 and August 1940 issue page 122.]

"Surgeons cut that they may cure"

GERMAN PROVERB

In a 40-hour week the new READING high-production twenty-six section forty-five gauge full-fashioned knitting machine produces 97 per cent more volume and 116 per cent more value than the ordinary twenty-section forty-two gauge machine . . . *And remember: Money invested in modern machinery not only pays big dividends of itself but also serves as insurance for your total investment.*

TEXTILE MACHINE WORKS • READING, PA.

A Mill Superintendent Shows His Methods of

Turning Welts

WITH the innovation of modern high speed machines there seems also to have been developed in our industry a cry for "more production!" In most plants now it seems as though not enough dozen can be produced to satisfy management. This is not on account of sales but is just another way of meeting price competition by cutting down on the overhead.

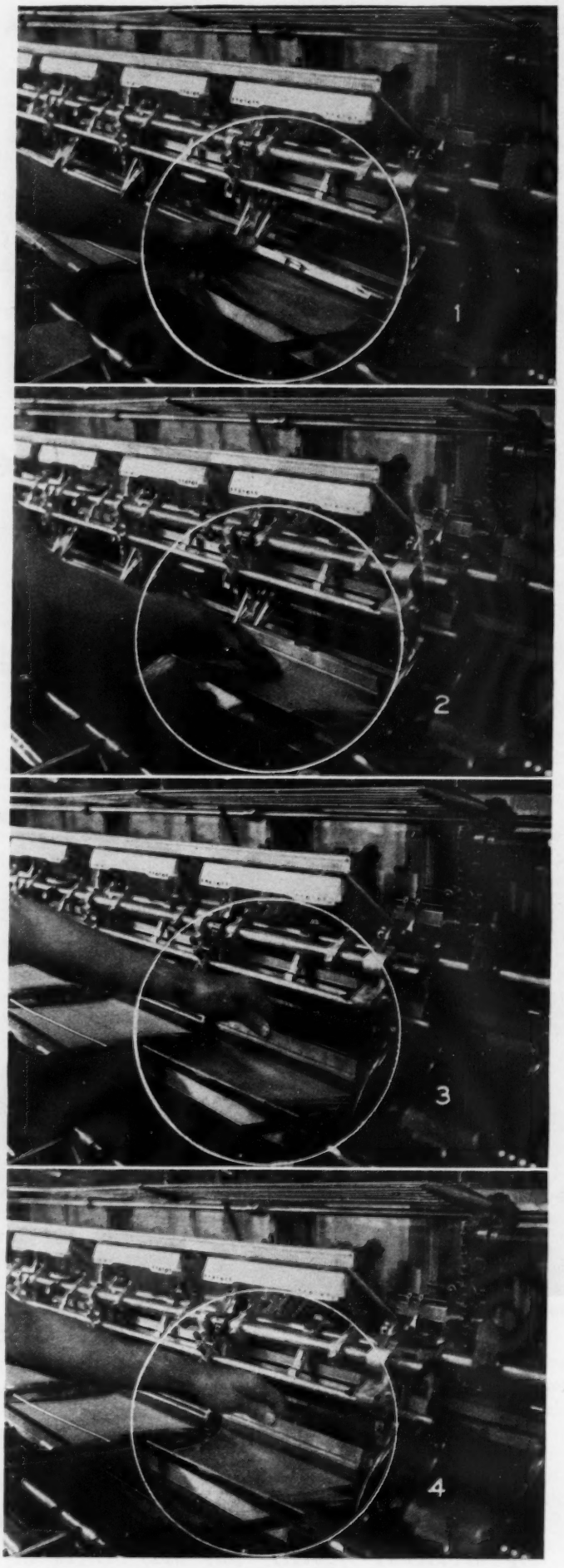
The machine builder is doing his best to speed up machines. The only other way to increase production is to speed up "stop time". In other words, speed up all operations which are made while machines are stopped, such as starting sets, turning welts, and making changes.

With the pictures on this page we are illustrating a fast, efficient and easy way to turn welts. It will be noted that in these pictures one can see only one hand in operation as the other hand was removed while the picture was taken in order to give a better view of the actual operation.

Picture No. 1 illustrates fitting of the welt bar on needles. It shows that the welt bar must slide on the needles at about a 45-degree angle. This eliminates any chances of hammering the welt bar down on the top of the needles when trying to make it fit. The hammering of the welt bar on top of the needles has a tendency to bend down the top of the needles, thus closing the needle beards. This should be avoided.

No. 2 shows the next operation. A portion of the welt fabric on each end has been forced down over the needles after the welt bar has been fitted properly over the needles. This holds the welt bar firmly in place and allows hands to be free to slide the fabric down over needles across the whole needle bar.

No. 3 shows the third operation. Here the welt bar is pulled up straight, tilting the top of the welt



Photos, John C. Fonville of "Cotton"

bar a little away from the needles toward the machine. This tilting is done to keep the end of the welt hook very close to the needles. The welt bar is raised up, pressing it close to the back of the needles until the welt hooks are finally raised to the position where the needles slide out of the groove of the welt hook, automatically being forced between the needles.

While this operation is being done care must be taken to keep the welt hook holding the fabric close to the needles so that the wales of the welt fabric will slide up under the needle beards as the welt bar is raised.

This operation is done very easily; just keep the end of the welt bar with the fabric very close to the needles.

No. 4 shows the last operation. The welt bar has been raised to its highest position. The wales of welt fabric are on the needles because when raising the welt bar the knitter made sure that these wales came up under the needle beards.

Now, it is only necessary to unhook the welt hooks and the last operation is completed.

In a nut shell, the welt bar is just raised up and while doing so is kept close to back of needles, thus when reaching top of position simply unhook and operation is over.

This method of turning welts is much faster. It also eliminates all chances of bending back the tops of needles. The new method also is helpful in the training of new operatives.

Some Yarn Counts Used on Present-Day Machines

THE following answer was prepared by an experienced knitting mill man in answer to a question submitted by another man; the latter asked if there is a rule or method by which the count of yarns necessary to make different weights of cotton hosiery may be determined:

There are no given rules or methods in hosiery manufacturing by which the count of yarns necessary to make different weights of cotton hosiery are determined. If the mill receives a sample which it is asked to duplicate, the sample can be raveled, a reeling taken off the yarn and the count be determined by weighing the reeling on a grain scale. Also, a single sock or a pair can be weighed, duplicates made and weighed to check against the original sample submitted.

Should the mill be asked to make a number which must weigh a given number of ounces per dozen it will be necessary to know whether or not they have machines suitable for these particular requirements. This of course means that someone in the manufacturing end must know what the mill's equipment will produce successfully. A thorough knowledge of the principles of knitting and the limitations of various types of machines is essential, and this can only be learned by practical experience.

The various gauges of machines such as 36, 48, 54 or 70-gauge are all expressly built to produce certain types or weights of goods. For example, 18, 24, or 36-gauge machines are used to make heavy numbers, 48-gauge and 54-gauge produce medium weights and 70-gauge fine or lightweight goods.

On 36-gauge machines about 160 needles 3½-inch diameter, one end of 30s/2 mercerized for leg and foot, one end of 24s/2 or 26s/2 mercerized for heel and toe makes a good combination which is suitable to this machine. Single cotton of equal weight can be used,

On 48-gauge machines such as 220-needle, 3½-inch in diameter, or their equivalent in the smaller diameters, 40s/2, 50s/2 and 60s/2 mercerized can be used for leg and foot and a heavier yarn for heel and toe, thus three weights of goods can be produced on one type of machine.

On a 54-gauge machine such as 240-needle 3½-inch diameter, 70s/2 mercerized for leg and foot and one end of 40s/2 for heel and toe have been used.

On 70-gauge machine on 280 needle 3½-inch or 200-needle 2½-inch diameter children's machine 80s/2 mercerized for leg and foot and one end of 50s/2 mercerized or two ends of 100s/2 mercerized for heel and toe are common counts for these machines.

Fortunately for the mill owner today knitting machines are quite flexible and they will knit yarns which are on the heavy or light side for their particular gauge, providing the goods are not knit too tight or loose.

Needle hooks will stand a certain amount of loading but if the fabric is knit too tight the goods will lose elasticity; likewise it is foolish to try to knit fine yarn on a coarser gauge needle and expect to get good fabric. This is where some practical experience and a thorough understanding of what knitting machines can be expected to accomplish is vitally important.

It must be remembered that when using heavy yarns on coarse gauge machines less courses per inch are made; fine count yarns used on fine gauge machines require more courses per inch.

Variations can be made to be sure, but when you go to extremes you can expect trouble in excessive seconds, and waste and production losses, not to mention much unnecessary labor and grief for the machine fixer.

New Basket to Handle Nylon Hosiery

W. T. Lane & Bros., Inc., Poughkeepsie, N. Y., has developed a system of handling nylon hosiery that is said to prevent snags, pulled threads, etc. The system is built around a new type of canvas basket that is especially designed for nylon. The baskets are made of lightweight, smooth duck, with the seams all on the outside, leaving the inside free of anything that the hose might catch on. By this method the hose are only touched when the operators (seamers, loopers, etc.) are actually working on them. The legger puts his day's production in a basket, with the hose laid out flat, and the basket with the lot of hose goes through to the preboarding machine.

KNITTING KINKS

Machine Operation on Three-Shift Basis

EDITOR COTTON:

Do hosiery machines give better service when running three shifts than when running two shifts?—CONTRIBUTOR NO. 7123.

I would prefer not to have three operatives on a full-fashioned machine as I believe the introduction of the third man would be injurious to the operation of the machine. The knitters do not work the same, do not plier needles the same, and on the third shift basis there is no opportunity to maintain the machine.

However, I prefer two shifts to one shift because with two 8-hour shifts a man can still put in 8 hours on the second shift and produce quality merchandise and keep the machine in good condition, at the same time getting a good production. Two men will cooperate better than three on the same machine.

CONTRIBUTOR NO. 7141

Weight Test for Cost on Silk Hosiery

EDITOR COTTON:

What accepted method do you consider best for making weight tests on silk hosiery for determining costs.—CONTRIBUTOR NO. 7111.

In answering the above contributor I would say that he must have the styles analyzed by some testing company that has the proper equipment, or he must have his own mill equipped to do this work. The testing company will analyze the stocking and tell how many ounces of silk are in the stocking. This step should be carried out just as soon as the mill believes that the stocking is running right.

After this, the mill must be careful to control the running of the product so that the stockings that are run later will be the same as those analyzed for weight. In doing this, it is wise to take about 25 dozen and weigh each dozen and compare this weight with the standard that has been set up. Of course, in doing this it will be necessary to allow for the amount of humidity placed in the hose, so with this in mind it would be a good idea to have records of humidity on the standard sets and the sets that are run later.

As an example of what has been done along this line, we ran a style and had the stocking we wish to standardize on weighed and analyzed by the testing company to get an average weight. Then every month we took about 25 dozen and weighed them a dozen at a time. With the standard known, it was very easy to determine if we were making goods in line with what we were attempting to do. If we found any variation in the weight of the goods—we wanted to know what caused it.

It might also be said that the cost of producing the hose had been figured on the hose that were set up as the standard.

If later on we ran a new lot of silk, we compared the figures on this with the standard; this system gave us a check on all the work passing through the plant.

Then too, if we remained on a style for as long as six months we made another check, and if there was too big a variation in the way we checked the hose, we then had the testing company check on us.

If we discovered something wrong, there immediately developed arguments as to what the trouble might be.

CONTRIBUTOR NO. 7117

Machine Adjustments to Run Nylon

EDITOR COTTON:

Does nylon require different machine adjustment from silk? What are the major changes?—CONTRIBUTOR NO. 7112.

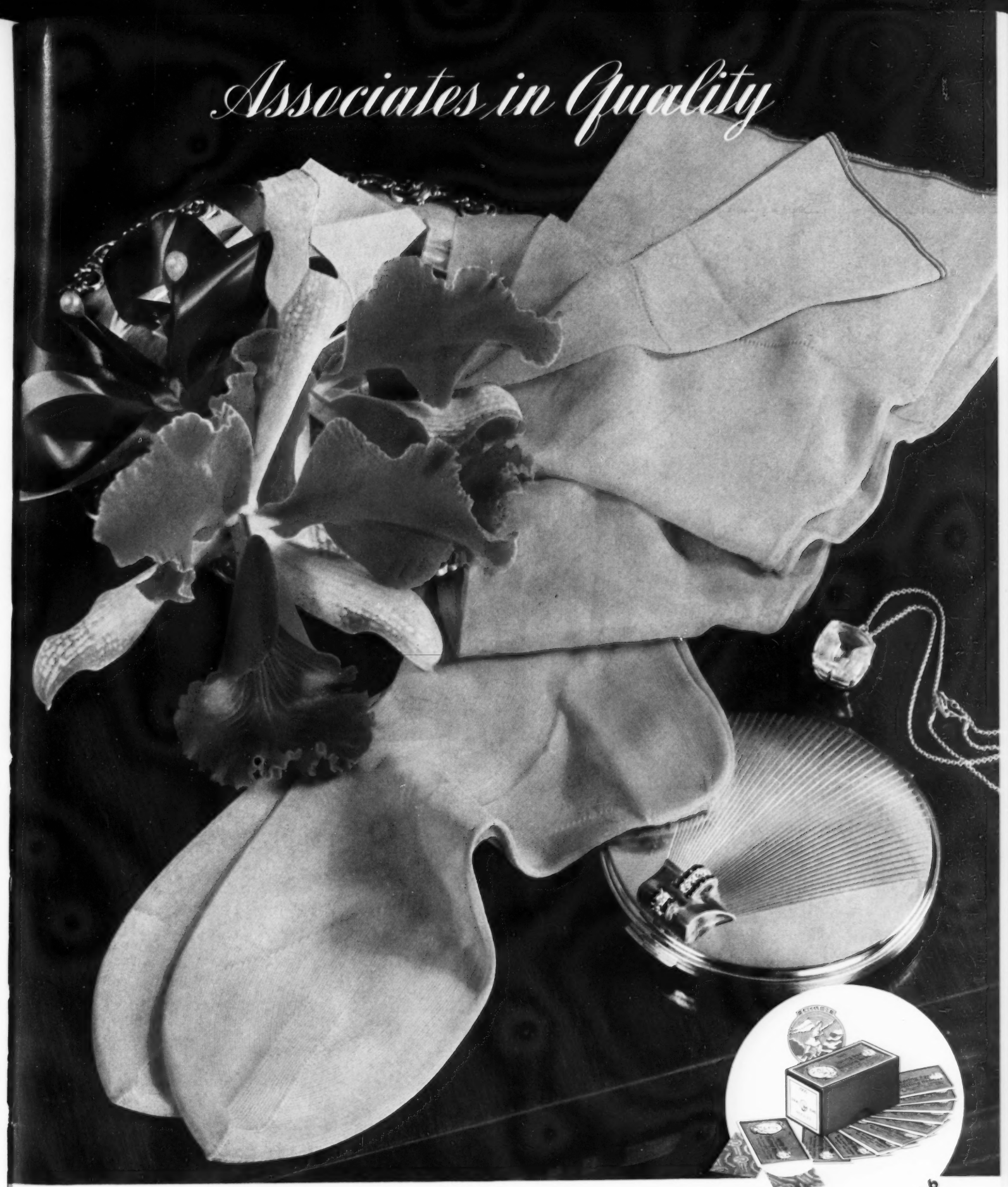
The major changes in the running of nylon as compared to processing silk are room temperature and humidity. This is very important. It is also important to adjust the draw-off motion. We must bear in mind that silk loses about 25 per cent in the boil-off and we therefore put in more courses to get what we finally wish (for example, we may put in 52 courses per inch in order to arrive at 48 courses per inch in the final stocking). When running nylon it is possible to put in fewer courses to get the finished stocking that we wish. It works just the opposite from silk and we may only put in 44 courses per inch when knitting the stocking to get 48 courses in the finished product. However, the *finished* number of courses that we get on the same style of stocking, whether made with silk or nylon, are the same.

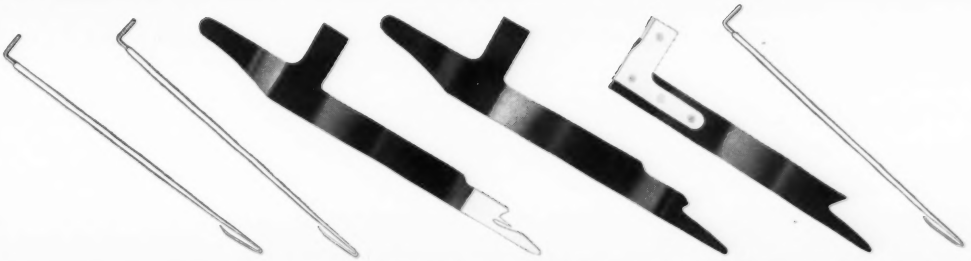
Going back to the subject of humidity and heat. I know of one mill where the knitting room was especially hot that could not run nylon. When it cooled off the nylon behaved very well on the knitting machine.

I believe that the nylon wears the needles and sinkers more than silk does.

From experience I have found that nylon can be run much better in a mill that is running only nylon, as compared to the mill that is processing silk and

Associates in Quality



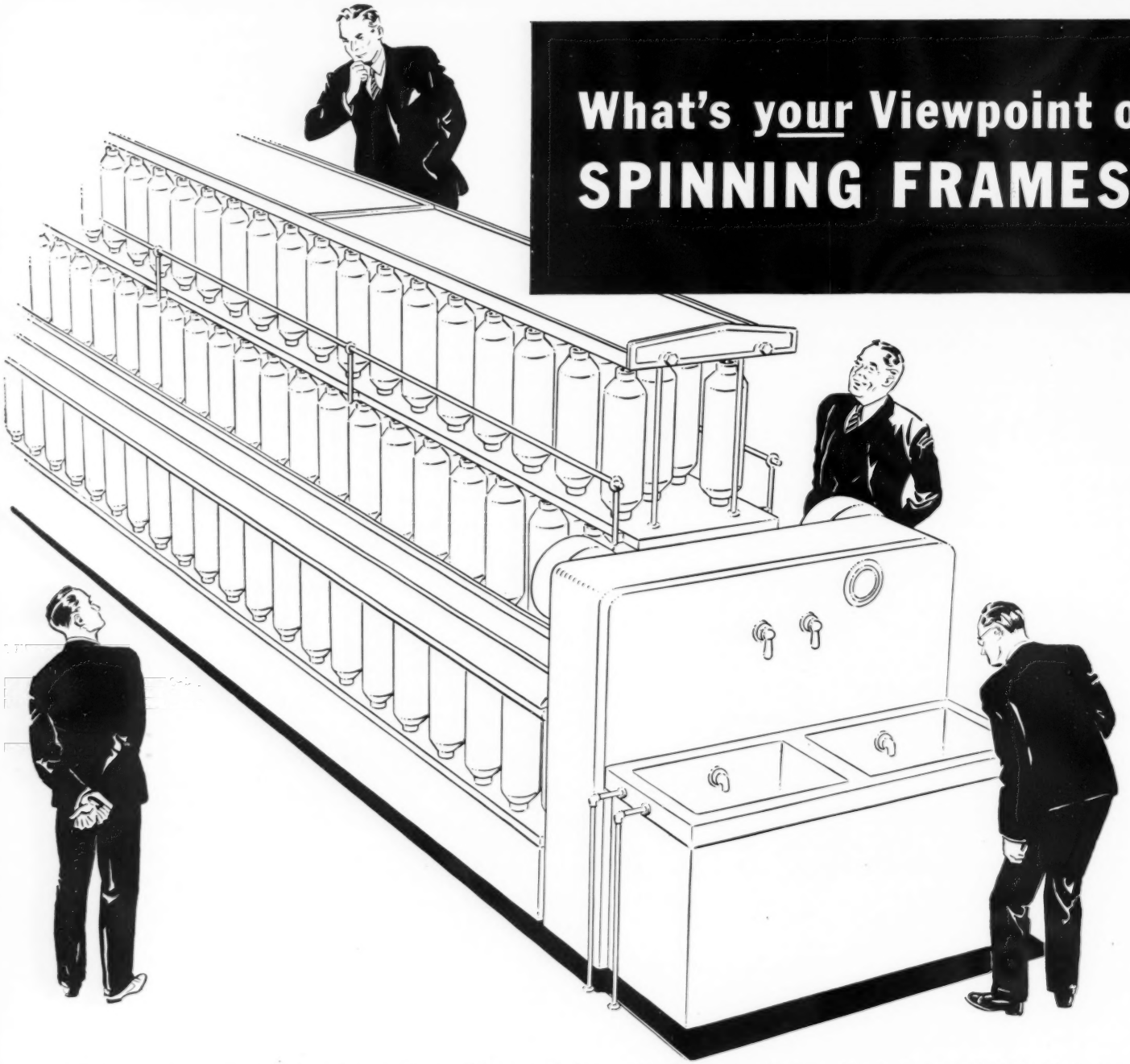


ESTABLISHED 1866

TORRINGTON

needles and sinkers

What's your Viewpoint on SPINNING FRAMES?



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Whatever your viewpoint, you will probably find that Torrington Needle Bearings give you many of the advantages you want in a spinning frame. These unusual anti-friction bearings offer management an opportunity to increase profits through substantial savings in power costs. The higher speeds which they make possible enable the superintendent to keep production schedules at peak levels. The maintenance department finds that they need little attention, for their simple, efficient lubrication keeps them running for long periods with only infrequent lubricant renewal.

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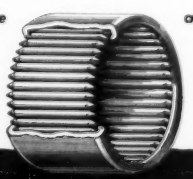


TORRINGTON NEEDLE BEARING

nylon hosiery in the same room. The two yarns require different conditions if they are to be run properly.

CONTRIBUTOR No. 7116

Sizing Full-Fashioned

EDITOR COTTON:

What is considered the best system to size full-fashioned hosiery, count the stitches with a glass or to yardstick the leggers?—CONTRIBTUTOR No. 6952.

I do not think it is advisable to size the full-fashioned stocking with a yardstick—this is considered the old-fashoned method.

We have found that the new method of placing the fabric in a mechanical device and stretching the stocking so that the course is stretched is the proper and most uniform method. When the stocking is stretched it can be counted. By stretching the stocking with the mechanical device we get the same amount of stretch every time, which gives us the uniformity desired.

When using this system we can keep a record of each head every day.

CONTRIBUTOR No. 7140

[Other discussions on this subject appeared in the following issues: page 177 October 1939 and page 130 November 1939; also March page 108, April page 165, May page 136, June page 135, and July page 171 of 1940 issues.]

Record of Supplies

EDITOR COTTON:

What system do you use for keeping a record of supplies?—CONTRIBUTOR No. 7122.

At our plant, which is quite small comparatively, we do not have a system of keeping a record of supplies, but I would like to see some comments on this from other mill men.

Our superintendent has charge of all supplies and personally supervises them. If there is a worn or broken part, he is notified and he goes out in the mill to look at it, getting the new part if it is necessary.

However, we do try to keep a permanent inventory of supplies so that no machine will be kept idle if something breaks down.

CONTRIBUTOR No. 7128

EDITOR COTTON:

I will not answer for all supplies that are kept, but will pass along our thought on needles. A knitter that uses a surplus of needles causes us to think that something is wrong with the knitter and we immediately begin an investigation to determine the trouble. Of course, in order to check on the needles used, we keep a record of needles used by each knitter and each machine.

CONTRIBUTOR No. 7132

Operating and Fixing Model ES Machines

Article 14

Conclusion*

By Emmett Starr

NOT ONLY is it essential that the wrap fingers function properly but all parts connected with the wrap head and those parts which aid in controlling the wrap yarns must be kept in first class condition and adjusted according to the pattern and to the kind of wrap yarns that are being used.

The tension bracket assembly (100101-y) Plate 28 has an important part in controlling the wrap yarns, therefore each part of the bracket should be adjusted to function properly, providing that the wrap yarns are threaded through the tension and the take-up as they should be. When some of the wrap yarns are not plaiting or they do not wrap around the needles that are selected to take on the wrap yarn or perhaps some of the yarns are broken, these various troubles are sometimes caused by the tension bracket. First of all, before making any adjustment of any kind to overcome these difficulties, check the yarn to see that it is threaded through the different parts of the tension bracket the right way.

Occasionally this trouble may be encountered: when turning the machine by hand all parts seem to work as they are intended to, the wrap fingers are pushed out and released at the proper time, the wrap yarn finger springs are not broken or disconnected, the wrap yarn tension arm seems to retrieve all slack of the yarn, but when the machine is operating by power there is something wrong somewhere. In such instances check the wrap yarn, see that it is threaded through the tension and under the yarn guides; the next step is to adjust the tension arm spring and tension spring, using the least amount of tension possible; some yarns require more or less tension. Perhaps the wrap yarn fingers or the tension arms have a rough spot or a slight groove which will cause the yarn to fuzz, this will hinder the take-up action of the tension arm. It will be necessary to remove the wrap yarn tension arm and finger in order that they can be polished.

There are times when the yarns seem to pull rather hard through the tension disc, causing the yarn to become broken; this may be due to the disc spreader not being adjusted to release the tension; or perhaps the yarn is wrapped around the tension disc stud. When the disc fails to hold the yarn it is generally caused by lint accumulating between the discs or else the face of the discs do not fit flat against each other so that when the discs are in a certtin position they will not hold the wrap yarn when necessary. Whenever lint gathers between the tension discs or the discs are not held evenly together,

*The other articles in this series appeared in the Knitting Section of the August, November, and December 1938 issues: the January, March, July, August, November, and December 1939 issues, and the January, March, April and August 1940 issues.

allowing the wrap yarns to slip through the tension discs too easily, then the yarns will not be under control, thereby causing those yarns to misplait, or to miss the needles that are elevated to take on the yarn, or there may be large loops in the inside of the sock, indicating that there is too much slack in the yarn which was not taken up properly due to the tension discs failing to hold the yarn.

Setting Selector Cam

The setting and the adjusting of the selector cam (200059) Plate 30 is of great importance. It should not be set too far in so that it is apt to rub on the wrap yarn finger dial. When the cam is set too far in so that it rubs on the dial, it will cause the cam to bind, which will hinder the cam from dropping out of action as the machine racks into the heel. The selector cam failing to drop out of action will continue to push those wrap fingers that come in contact with the cam, thus letting the warp yarn wrap around the needles that are being raised by the raising switch cam to the inactive point while in the process of making the heel. When this occurs the yarns are most likely to be torn apart and if the selector cam still fails to drop out of action before the machine reciprocates then the butts of the fingers that come in contact with the cam on the backward motion will be broken off. The selector cam bracket stud not fastened securely will also cause the selector cam to act sluggish, keeping it from dropping out of action in time to avoid any trouble. When the selector cam fails to drop out of action as the machine racks into the toe the same trouble will be encountered.

The selector cam should drop out of action about the center of the wrap fingers that are used on the heel side needles as the machine racks into the heel, in order that no fingers will be pushed out as the instep needles are being elevated to the inactive point and the cams should drop out of action as the machine racks from the foot to the ring toe. This is one move before racking into the toe, and will give the selector cam plenty of time to drop from action providing the cam does not bind.

When it becomes necessary to adjust the selector cam to overcome any trouble the machine should be racked through its changes by hand and thoroughly checked to guard against any other difficulties that may develop while correcting one that has been giving trouble.

The selector cam when in action should push the wrap yarn fingers out just a little ahead of the yarn bumper to avoid hitting the bumper as the fingers are being pushed out, and they should also be pushed out far enough to clear the bumper. All wrap yarns do not act the same; one kind of yarn may wrap perfectly while a different construction will give trouble; this trouble may be due to the fingers being pushed out too soon, causing the yarn when striking against the bumper to loop over it instead of the bumper holding the yarn until the fingers are released by the selector cam. To delay the fingers from being pushed out too soon it will be necessary to grind some stock from the front end of the selector cam. When grinding the cam be careful not to take too much off, as this will delay the fingers too long, causing them to strike on the bumper as they are being pushed out. Advancing the bumper, providing it is not set as far forward as possible, may help to give better results in controlling the wrap yarns.

The yarn bumper must be kept smooth, free from nicks, burrs and sharp edges, so that it will not injure the fibers of the wrap yarns. When the fibers of the yarns are broken it will cause the yarns to become fuzzed and when the yarns are damaged to a certain extent the take-up action will not function properly. When the take-up action fails the yarns will have a tendency either to miss the needles that are raised to take on the wrap yarn or form large loops on the inside of the sock as well as on the outside.

The length of the selector cam depends upon the pattern. A vertical pattern of single needles, spaced eight needles or perhaps less apart, will require a short cam, while a clock pattern, which generally has from nine to thirteen needles, will need a full length selector cam. In making a pattern of single needles, that are spaced eight needles apart, the finger (No. 1) that is pushed out to wrap around one of the needles, that has been raised to take on the yarn, will have to be released in time for the yarn to slide off the bumper before the next needle is in position to take the yarn from the following finger (No. 2), the yarn in finger (No. 2) striking the bumper before the wrap yarn of finger (No. 1) slides off the bumper will have a tendency to hold the yarn in finger (No. 1), causing it to wrap around the needle that is only supposed to take the wrap yarn from finger (No. 2). This may happen occasionally and then again it may do it quite frequently. The trouble may be caused by the selector cam being too long, a tight finger, the finger spring broken, a slight nick in the yarn bumper and then it may be that the wrap fingers are not spaced properly or perhaps the dial may need to be advanced or retarded depending upon the action of the wrap fingers.

Making a Wide Pattern

When making an extremely wide pattern, such as a stagger pattern which requires a finger to wrap from fourteen to twenty needles, a longer finger is used. This extra length permits the finger to be detained in an outward feeding position by the yarn holdout cam longer than they would ordinarily stay out when acted upon only by the selector cam.

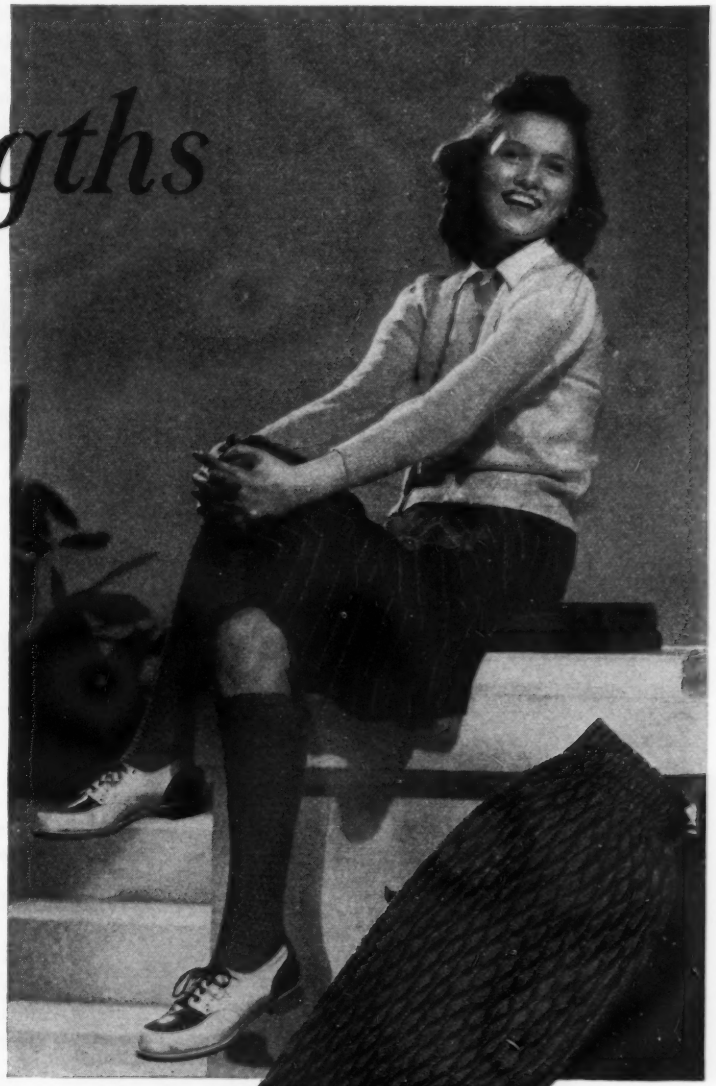
It is hard to determine what caused some machine to misplait in the wrap pattern. It may be due to not enough or too much tension on the wrap yarn or on the body yarn, the sinkers not set properly, the stitch cam may have been hollowed out too much or the wrap yarn not controlled properly by the plaiting finger. The adjustable wrap yarn plaiting finger has proven very successful, as it can be advanced or retarded, set in close or away from the needles, whichever is necessary to obtain the best results in the plaiting of the wrap yarn.

If you are interested in articles on a particular machine, write the editors.

Knee Lengths

AMERICAN

*Durene**



Young America goes for "knee lengths" and *American* Super-Mercerized Durene fills the bill . . . for a yarn that has to look right, feel good and wear to satisfy a highly critical consumer.

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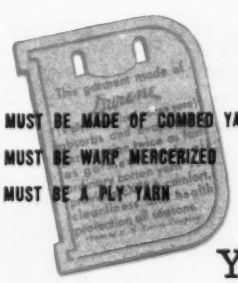
Fabrucord

AMERICAN'S Special 3-ply yarn for English Rib Construction



* 1. MUST BE MADE OF COMBED YARN
2. MUST BE WARP MERCERIZED
3. MUST BE 4 PLY YARN

AMERICAN

YARN AND PROCESSING COMPANY

MOUNT HOLLY N. CAROLINA

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Type Verge Plate and Settings

EDITOR COTTON:

On page 112 of the January 1940 issue of COTTON, your "CONTRIBUTOR No. 6957" has asked what type of verge plate is found satisfactory by the various mills, and has requested certain settings of the verge plate.

The most satisfactory verge plate is nothing but a matter of opinion. What one mill relies on another mill would find inadequate for the simple reason there are very few mills which operate under identical conditions. In our mind, the type of verge plate that comes with the machine should be the most ideal because that particular verge plate has been designed for that certain machine. If a change is made there is no telling what may eventually crop up after the plates have been installed for a few months. If the machine company changes the type of plate for any particular machine model, one can very well rest assured it is for the best, but purchasing verge plates from unreliable independent companies can be classed as a risk which might or might not be worth taking. If at any time one thinks they have discovered something better in the line of verge plates the only thing to do is to try them on one machine before plunging into the matter wholesale. That not only holds true with verge plates but any other attachments which might be offered for sale.

The contributor says he fully realizes the purpose of round holes and slots in the plates. That is the same reason why the sinkers strike the plates at an angle and *not* flush—to alleviate vibration which will cause untold breakage of sinkers. If the sinkers were to strike the plate surface flush it would also be a hindrance to the catch-bar motion at the highest point on the catch-bar cams, namely, when the catch-bar comes forward and retrieves the sinkers for the backward pull. At the aforesaid point the plates must still have spring and if the sinkers were to strike flush there would be difficulty experienced in retaining the proper catch-bar motion to say nothing of broken sinkers. Hitting plates flush is one of the reasons why there is so much trouble at times with broken sinkers on machines that have been running for several years. The surface of the plates are worn practically straight and that is the seat of the trouble, and it can also be noticed that these machines with worn plates usually need more catch-bar to keep it from jumping, sometimes to the extent that by placing the fingers on top of the plates one can feel the sinkers strike hard against the plates.

Different types of machines have different angle at which the sinker strikes momentarily as it is impelled forward by the jack; but it never rests against the plate. If such is the case then there is not enough distance between the plates and the sinkers and this should be remedied at once or the life of the plates will be shortened considerably. The proof of the pudding is in the eating and all the contributor has to do is to install a new plate and after several days take it off and he will immediately see that the plate has faint marks near the *bottom* of the striking surface. Also, when gauging for distance between the plate and the sinkers there is more room at the top of the plate than at the bottom where the divider is inserted between the plate and the sinkers. It was our privilege to observe some new machines being installed a few days ago and the plates are still made so the sinkers do not strike flush.

The best distance between the plates and the sinkers for quality is the width of one divider of the respective gauge of the machine. The divider should fit snug so there is enough tolerance either way in case the head must be adjusted for improper length. Naturally, the tighter the sinkers are against the verge plates the better the fabric but the plates are sure to suffer and if the play in the sinkers becomes too great it will usually cause stripes or streaky fabric.

The answer to this interesting question is not only a personal opinion but also the opinion of many fine finishes of our acquaintance.

CONTRIBUTOR No. 7090

Dyeing Nylon and Acetate Half-Hose

EDITOR COTTON:

We are interested in knowing of some successful method of dyeing rayon half-hose which have double-resist dyed and natural acetate clocks knitted in, and heels and toes of about 75 per cent mercerized cotton and 25 per cent nylon. We want to dye the nylon to a near union with the mercerized cotton and leave the natural acetate white. Our objective is to dye the nylon so that it may be visible in the heels and toes in some color that will harmonize with the mercerized cotton and not affect the other yarns in the stocking.

CONTRIBUTOR No. 7172

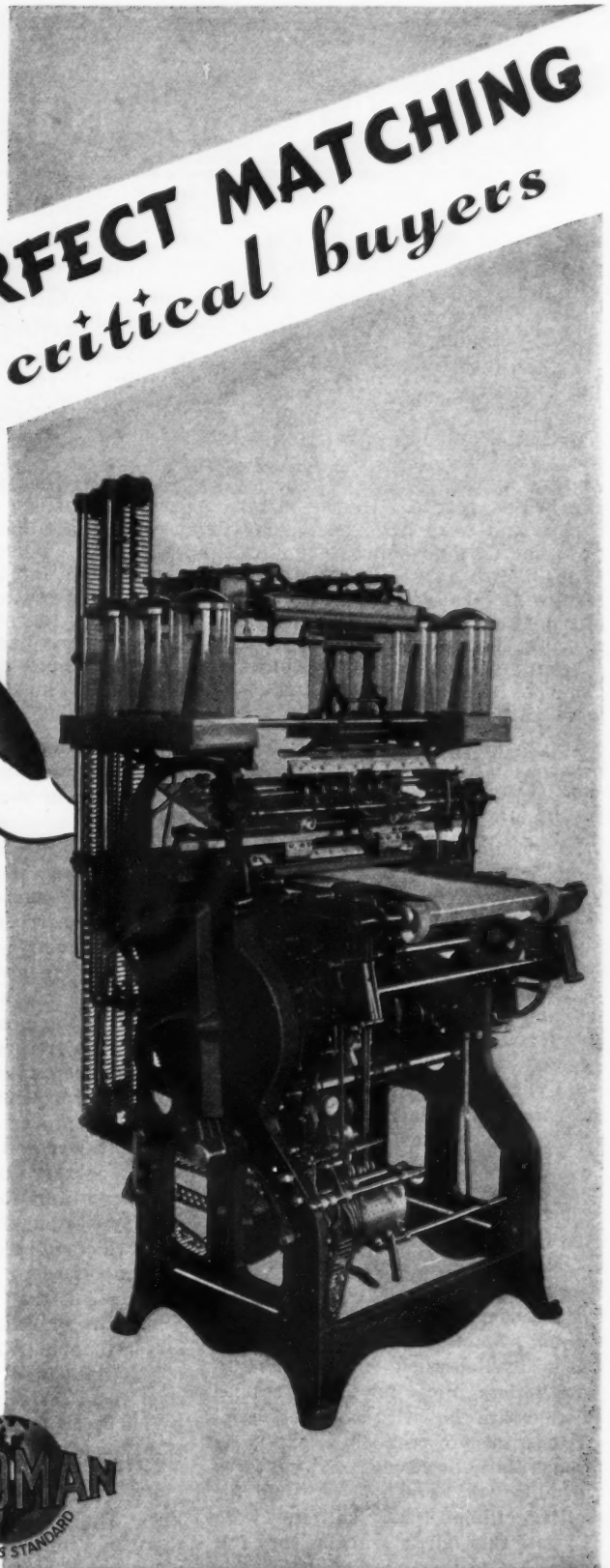
The New Brinton T. W. S. Machine

H. Brinton Company, Philadelphia, Pa., announce the Brinton T.W.S. machine, which is equipped with trick wheels for making Jacquard designs in jersey stitch. It is of the sinker type, of particular interest to glove and mitten manufacturers.

The standard machine is two feed, with four-color yarn changer on each feed. Most in use, for children's and ladies' gloves, are machines of 2¾ to 3½-inch diameters—containing 48 to 56 needles—and for men's gloves 4 and 4½-inch, 60 to 70 needles. However, these machines are available in these diameters with any number of needles desired.

Among the special features of the machine are thumb spread attachment, automatic stitch adjustment, automatic change from plain to tuck or welt stitches, 60-tooth trick wheels and 18 steps; and motor drive, if desired.

Be ready with PERFECT MATCHING for 1941's more critical buyers



More women will buy fine gauge stockings in 1941 than in any previous year; but they're going to be more "workmanship-conscious" than ever before. The bad matching of "leggers" and "footers" is not going to get by. The critical eyes of 1941 will class such merchandise as "seconds"—and that's what cuts into your profit.

Why not eliminate this hazard? Use this Wildman single-head, single-unit machine. It knits the entire stocking from top to toe in ONE operation, every one just as perfect as the one before. Let us send you complete details.

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WILDMAN SINGLE-HEAD, SINGLE UNIT FULL-FASHIONED HOSIERY MACHINE

TRENDS AND HIGHLIGHTS OF THE KNIT GOODS MARKETS

Full-Fashioned Hosiery Prices for Spring Expected to Be Unchanged—Such Mills Have Experienced Good Volume in Last Month—Additional Advances in Cotton Yarns Forcing Underwear Prices Up—Large Army Buying of Hosiery and Underwear Brings Spurt to Knitters—Holiday Buying Very Heavy.

December 16, 1940

HOSIERY and underwear knitters are finishing the year with a burst of activity, part of this seasonal and part of it reflecting larger civilian demands and a good portion representing military orders for the armed forces. In the latter, orders for hosiery and underwear of cotton and wool have been heavy and reports are makers of wool half-hose for this reason are busier than they have been for years at this time. With raw silk remaining almost stationary there are more or less official reports that spring full-fashioned prices will be unchanged. There is still a strong call for the nylon stockings and mills making these lines are late in deliveries. There has been a good call for anklets for spring with knitters in instances changing constructions to keep old retail price tags. Campus socks are a seasonally active line.

Full-Fashioned

Shipments of women's full-fashioned hosiery are gaining so that notwithstanding a relatively poor early part of this year indications are when the twelve months are totaled there will be shown shipments for 1940 not far, if any, under 1939. Mills here and generally throughout the industry are busy making goods for the holiday season and preparations are also under way for the spring lines. In this connection there are indications that not much change in price will be seen on the new lines. Branded firms are not expected to change their lists and although some jobbers are looking for slightly lower prices on unbranded no wide changes are anticipated.

Nylon full-fashioned goods are still in strong demand and manufacturers as well as jobbers are unable to keep up with demands of this type by a wide margin. Stability of raw silk prices makes it impossible for knitters to raise hosiery prices for spring but indications are that with more active operations in prospect for next year through large consumer expenditures the mills will have a better time for profits. Philadelphia knitters were very late this fall in swinging into full production so that most of these mills will not have a good balance sheet to show for this year even though they are finishing with a burst of activity.

Half-Hose

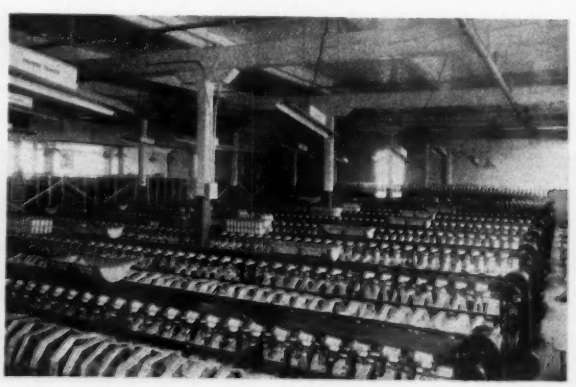
This is one of the most active branches of the knitting trades with good civilian demand and with an exceptionally large amount of military contracts, the local Army Depot having placed in recent weeks contracts for large amounts of both cotton and wool half-hose. It is reported that wool half-hose makers are busier now than any December for a number of years and part of this is due to the Army contracts which must be delivered over the nearby months. Slacks socks are a highlight of the half-hose market and indications are the spring will see a record-breaking movement of these shorter length types. As it is this winter is already breaking records for shipments of short socks in both cotton, rayon and silk types and in wool. Jobbers report some of the smaller knitters for spring will produce nothing else but the short length socks. This will help because it will cut costs and enable many to place their merchandise in the old retail brackets. Shipments of slacks this year will be larger than in 1939 and men's regular length lines will be slightly smaller this year than last by about 5 per cent.

Seamless

Women's seamless lines are slow but there is a very good volume of business being transacted in anklets for the coming season. Jobbers have placed orders for these in good volume and they expect January to witness the beginning of the retail movement in such items. A highlight of the seamless hosiery branch is the exceptionally large retail movement of the campus socks. These are in regular types or in terry cloth constructions and sell in largest volume with many jobbers in the 35-cent and 25-cent price brackets. Demand has been so heavy for such lines this month that jobber stocks are well cleaned up and they have delays in getting duplicate orders through knitters in time for this rush business. Campus socks are being moved in the largest volume in the reds but now other colors are coming up although still far behind red in popular favor. Shipments of seamless lines this year are running about 4 per cent smaller in women's lines but in anklets are up 8 per cent compared with a year ago. The women's seamless items are affected unfavorably by the lower priced silk full-fashions compared with silk around $3.00 and up.

Underwear

Underwear mills are generally busy but they do not have a great deal more business in hand than a year ago except in spots such as those working on Army contracts, either cotton or wool. There is a good civilian demand for the heavy goods and in the case of the cotton knitted spring season numbers manufacturers, because of the advance in cotton yarns of all types, have placed conservative advances in effect. Several in the cotton ribbed end of the market have advanced their lines 12½ cents per dozen while some makers of sweat shirts have jumped their prices 12½ up to 25 cents per dozen. The cotton sweat shirt end of the business is very busy. There is some talk in



Throwing department at Morganton (N. C.) Full-Fashioned Hosiery Mills.

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KIER BOILING
SCOURING
FULLING
DEGUMMING
SOAKING
BLEACHING
PENETRATING
FINISHING
SOFTENING
SIZING
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LUBRICATING
DELUSTERING
WATER-PROOFING
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THROWING

COTTON ✦ ✦ ✦

Diazonol: *used in the kier, also boiling off on jig or washer, effectively removes starches, waxes, etc., producing more absorbent cloth.*

Aquarol: *produces a water repellent finish.*

Arko Fireproofing Compound: *used in flame proofing cotton cloth — also viscose and acetates.*

Parapon R: *for finishing fine cottons to impart a very soft, full feel. Excellent for sanforizing. Greater shrinkage.*

Tetranol No. 1638: *a rapid wetter and penetrant for raw stock, yarn and piece dyeing, excellent for package dyeing.*

Penetrolin No. 703: *used in vat dyeing as a penetrant and foam dispeller.*

Pineol No. 345: *a soluble pine oil boil-off and dyebath penetrant.*

Culofix: *used as an after treatment to increase water fastness of direct colors.*

WOOL ✦ ✦ ✦

Arko *Fulling and Scouring Soaps.*

Lanitol: *penetrant, scourer and soap assistant.*

Anthrolic Acid: *used in dyeing.*

Hydrosulfite: *stripping stock and piece goods.*

Hydrolite L: *liquid stripper.*

Melton Finish: *improves body and weight of light fabrics and mixtures (unions).*

Penetrolin A Conc: *accelerates penetration of the acid bath in carbonizing.*

Parapon: *produces greater softness and improved hand in finished fabrics, also a leveling agent in dyeing, producing even shade.*

Paratex: *water softener and soap regenerator, used in last rinse after scouring to remove all soap from the pieces.*

Aquarol: *produces a water repellent finish on piece goods.*

Arko Tar Remover: *removes tar spots and oil stains from piece goods.*

Arko Fixing Salts: *for after treating union dyed piece goods to improve color fastness.*

Anthrachrome Mordant: *for chromate dyeing.*

SILK & RAYON ✦ ✦ ✦

Paramine: *imparts a soft, full, silk like finish to viscose and acetate fabrics and spun rayon.*

Aripel F: *finish and anti fume agent for dyed acetate.*

Permolite: *a synthetic resin, reduces slippage of filling yarn in rayons—used in conjunction with Genotex for permanent finishes on rayon and cotton. Produces a soft full finish on spun rayons.*

Resipon A.M.: *for finish and shrinkage control of spun rayons.*

Diazonol: *desizing and scouring on the jig or reel machine.*

Delustrol: *for delustering silks and rayons.*

Arkogel: *used in sizing viscose and acetate warps.*

Tetranol No. 1638: *a rapid and positive penetrant for use in dyeing, finishing and sizing.*

Arko Rayon Oil No. 1: *a lubricant for coning, winding and knitting rayon.*

Stripper T.S.: *stripping silks and rayons.*

Hydrosulfite S: *for reducing vat colors.*

Parapon: *dyeing assistant and finishing softener.*

Aquarol: *for producing a water repellent and spotproof finish.*

Lanitol: *boil-off and scouring assistant.*

Culofix: *improves fastness to water and bleeding of direct dyeings when dissolved in final rinse as after treatment.*

HOSIERY ✦ ✦ ✦

Delustrol No. 960 — Hosiery Finish No. 958: *used in combination for producing a low luster and body on silk or rayon hose.*

Aquarol H: *produces a splashproof finish.*

Decerinol No. 129: *for degumming and dyeing hosiery in one operation.*

Decerinol No. 229: *for degumming silk hosiery by the two-bath method.*

Stripper T.S.: *used in stripping silk, rayon and cotton hose.*

Hydrolite Z.S.: *a rapid stripping agent for silk hosiery.*

Lanitol: *a neutral scouring agent, used in processing and dyeing hosiery made from mixed fibers or containing a dyed acetate stripe.*

Resipon H: *a synthetic resin for finishing silk or nylon hosiery.*

ARKANSAS CO·INC·

NEWARK ESTABLISHED 1903 NEW JERSEY

the market already about the fall of 1941 but manufacturers are showing a tendency to go slowly in this connection, most agreeing that it is too early for that season yet. Stocks are small in hands of most knitters and many have Army contracts for delivery over the next few months.

Christmas Trade At New High Level

Sales of dry goods and apparel stores are expected to increase eight per cent in dollar value for the four weeks from Thanksgiving to Christmas day as compared with the 1939 period, according to the National Retail Dry Goods Association. It is pointed out these sales will be considerably higher in quantity than in any previous holiday season and it is believed the increase may go as high as 20 per cent in physical volume in many departments of the average department store. The association believes that dollar sales registered in the country's retail stores from Thanksgiving to Christmas will in most lines of retail trade exceed the dollar volume of 1930 and come within shooting distance of the total sales volume in the boom year Christmas of 1929. But because retail prices this season are only slightly above a year ago and considerably under the Christmas 1929 general price level, the physical volume of merchandise exchanged this season will unquestionably be the heaviest on record.

Taking the department store field as a criterion the association believes dollar sales in department, dry goods, general merchandise and apparel stores may be expected to total $1,350,000,000 during the four weeks from Thanksgiving to Christmas. "Since the prices of department store articles were roughly 20 per cent higher in that Christmas season eleven years ago than they are now, actually the amount of business this year in terms of the quantities of perfume, hosiery, bridge lamps, radios, fur coats and the thousands of other items which make up Christmas shopping lists will be considerably higher than in any previous holiday season—in fact going as high as 20 per cent more in physical volume in many departments of the average department store."

The Christmas favorite, hosiery, will share in this upsurge buying. Retailers' stocks of hosiery are low, being well below a year ago and manufacturers report they are already being pressed for quick delivery of merchandise. Some retail buyers early in December were pressing for quick delivery of merchandise not scheduled to go out to them until the third week of the month. In view of this the holiday volume in hosiery may be considerably larger than was anticipated and it will furnish a clue as to what may be expected from the increased purchasing power in this country over the next two or three years when billions of dollars will be expended in the rearmament drive.

FORECAST

(Opinion submitted by COTTON's market correspondent)

Philadelphia, December 16, 1940

Although inventories in many lines are expanding at a rate that would be a "stop, look and listen" sign in more normal times, this has not reached a point where it could be termed dangerous with activity at a record level so far as physical production goes and with new peaks due in the coming year. The worse that can happen is that there might be a period of digestion where manufacturers would digest the heavy raw material commitments of recent months. There are faint signs such a period is here in some textiles.

This does not mean a recession. In most lines there is a fair civilian demand with greater activity ahead as the larger employment has its effect back to primary markets which will come early in 1941. It could mean a period of hesitation with prices moving more sideways instead of upward as cotton and wool textiles have been doing in previous weeks. But this aside, the longer term outlook is very favorable based on the billions that will be pumped into the economy by the military expenditures.

Taking each section of the textile trade, there are indications that wool prices will mark time and not advance as rapidly as they have in previous months. One reason for this is that the Army is now taking foreign wools and this prevents any pinch such as was developing when there was a scramble for domestic sorts. Even so there is no reason to expect cheap wool in the coming year with so much needed by the war-torn countries for military cloths and so much by the United States in its rearmament drive.

In cotton, there is a record-breaking domestic consumption ahead which will tend to prevent this commodity from feeling the full effects of its loss of so many foreign markets. This commodity will not change much but yarns and cloths made from it will remain firm and may advance some more due to the large demand that is coming from the military forces and indications of a record civilian taking of such goods.

Silk prices are not changing and there is nothing to indicate any runaway price movement either way. Japan would prevent it from going too low and the use of competing fibers such as nylon prevent it from going much higher. Rayon will be firm but no one expects any major price movement upward even though there was recently made a price adjustment in the price of knitting cones to the prices of the same size in weaving.

Rayon may in the coming months be advanced slightly but this will remain relatively the cheapest textile fiber, thereby expanding its use even though it is not required in military cloths. Manufacturers are buying raw materials about three months ahead and nothing indicates they should change this policy now.

Sun Tones Emphasized In Spring Hosiery

Tropical shades with a warm rich glow have been featured among the nine hosiery colors for spring issued to members by the Textile Color Card Association. The new hosiery colors are: Florisun, which is described as a sparkling sun shade; Hula Bronze, described as a rich sun bronze tone; Tropic Nude, a radiant sun tan having fashion appeal with costumes in beige and coco browns; Riosun, described as an orange tinted sunburnt hue; Bali Beige, a light blond beige going well with costumes in natural tone beiges and browns; Calitan, a light golden tan having wide use with costumes in honey, amber and golden tones; Aloha Blush, a rosy tropical hue going well with pastels and white; Carib Beige, a medium neutral beige going well with the navy and other blues and Skydusk, a misty rose tinted beige which has fashion prestige as a subdued complement to dusty roses, blues and other shades.

New Underwear Record For 1940 Predicted

The 1940 production of the underwear industry appears likely to exceed by a slight margin the record set in 1939, the Underwear Institute finds in reviewing the current year and looking ahead to 1941. It states indications are output for the year 1940 will approximate 48,300,000 dozens, only slightly more than the total for 1939 and 3 per cent over the next previous peak of 1936. It would however be from 20 to 30 per cent greater than the output for the years 1934, 1935 and 1938 and about 10 per cent more than for 1937. Shipments substantially kept pace with production and until the closing months of the year mill inventories had recorded a sustained decrease from last year but during the last quarter a seasonal accumulation brought the total at the year end to an estimated 7,250,000 dozens or very slightly in excess of a year ago.

An important factor in the 1940 activity was the heavy Government buying and through December 12 Government orders this year had been placed for 4,998,000 cotton or cotton-wool shirts, 4,796,000 cotton or cotton-wool drawers, 15,970,000 athletic shirts, 15,357,000 woven cotton shorts and 240,000 union suits. In addition an entirely new item to this trade, tricot knit mosquito netting was bought in large amounts. Coming to the question of the outlook for 1941 the Underwear Institute comments that "we are closing a period of more than a year and a half of heavy production similar to that of 1936 and the first half of 1937." In view of this it is felt the normal prospect for 1941 would be one of modified activity. While increased employment and larger payrolls will be some boost to National purchasing power it is felt this cannot be counted upon too much to benefit the under-

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UNDER AUSPICES OF THE NATIONAL ASSOCIATION OF HOSIERY MANUFACTURERS AND UNDERWEAR INSTITUTE

There has NEVER been a time when so much mutual benefit can result from a meeting of producers and buyers in the knit goods trade. Expansion is going on everywhere—employment is up—payrolls are up—the hosiery and underwear industry is building, not merely to meet present requirements—but for the future.

This Is The Year's ONLY Opportunity For Producers of

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It is certain that 1941 will see more replacements, more changes in equipment than ever before. That's why it's essential EVERY manufacturer of EVERYTHING in the hosiery and underwear industry should exhibit.

The price of a space 100 square feet is only $150, including backwall, side partitions, desk, chairs, rug, hat tree and booth sign—and also electricity or steam, if required.

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wear trade. The normal outlook based on the statistical position of the industry would indicate some tapering off from the 1939 and 1940 levels.

British Ban On Silk Hosiery A New Factor

The wartime ban on raw silk and particularly silk hosiery effective December 1 is troubling the hosiery industry in Great Britain although it is recognized as an emergency measure. The situation as to the amount of hosiery stocks to be hit by the measure, also the possibilities in substitutes, rayon and cotton yarns, is being studied by the trade. In commenting on this the Textile Weekly of Manchester, England said: "We would estimate that of the consumption of pure silk from 75 to 80 per cent has been going regularly into hosiery and knitted goods. Make no mistake, the silk trade is not crying out—there is no older or more loyal industry and if it proves that the Government has to sacrifice the British silk industry in the larger national interest, the leaders will bow their heads and acquiesce patiently to the inevitable. Later on they will rise again for there is magic in silk." It is expected this development will greatly increase the consumption of rayon and cotton yarns to take the place of silk.

Wool Labeling Method Studied By Knitters

General use of a uniform string ticket was favored by several buyers and representatives of the knit goods industry as the method of complying with provisions of the wool labeling law which becomes effective on July 14, 1941, when they conferred at the offices of the National Retail Dry Goods Association. The string ticket was favored for outerwear as being flexible and relatively inexpensive. In this connection S. S. Korzenik of the National Knitted Outerwear Association said his group would take leadership in attempting to set up a ticket which would be adequate and cover two and possibly three major classifications for revealing the fiber content of the product. Representatives of the hosiery manufacturing industry and retail hosiery buyers reached five points of agreement. The points were: that manufacturers will start the actual job of labeling at once or as soon as it is possible to do so; that labeling should be placed where it can be readily seen by the purchaser; wherever possible, the transfer method will be used in labeling to comply with the law although it is recognized that in some lines of hosiery a rider ticket may be the most feasible means; one of each pair of hose will be labeled and where other methods of labeling appear necessary such as in the case of bundle goods the approval of the Federal Trade Commission will be sought.

A comprehensive analysis of the wool labeling act has also been made by the Underwear Institute and sent to its members giving ample and full warning on the meaning of this drastic measure that manufacturers have to comply with. The new law is controlling as respects the fiber content labeling of any product containing wool despite the possible existence of other labeling regulations evolved out of trade practice procedure. The law is enforced by the Federal Trade Commission. The Institute emphasizes that while the act does not go into effect until July 14, 1941, that does not mean that underwear manufacturers may forget all about it until then. It calls attention to the fact that merchandise now being manufactured will in instances reach the consumer after July 14, 1941. For this reason information on fiber content as provided in the act should be given at once. This advice to underwear knitters of goods containing wool will be timely as such

An Eye on the Knitting Mills

Blue Bell-Globe Manufacturing Company has purchased the building of Greensboro (N.C.) Full-Fashioned Hosiery Mills; this company manufactures overalls. The machinery of the full-fashioned mills has been removed to the newly constructed building of Owen Osborne, Inc., full-fashioned plant, Gainesville, Ga.

Willis McMurry and John Campbell have purchased from the A. V. Victorius estate of New York the old Byrum Hosiery Mill plant at Hickory, N. C., and plans are to interest outside capital in a full-fashioned plant, or to convert the building into a bonded warehouse.

Renfro Hosiery Mills Company, Mt. Airy, N. C., has erected an overhead bridge to connect the plant with the old Hennis Building, which was recently purchased by Renfro, and which has been remodeled and is being used as a shipping department.

Board of directors of May Hosiery Mills, Inc., Burlington, N. C., have changed the corporate name of the firm to May, McEwen, Kaiser Company. The change in name, as effected, will involve no change in policy or personnel.

Burlington Mills Corporation, with headquarters in Greensboro, N. C., has filed registrations for a preferred stock issue, and will use part of the net proceeds of the capital for new throwing and hosiery machinery and a new hosiery finishing plant.

Knit-Sox Hosiery Mills and Louis Lavitt Company, Hickory, N. C., are expanding operations in their new building on Highland Ave. A total of 133 circular machines are expected to be in operation shortly.

It is understood that the strike at the Nebel Knitting Company, Inc., Charlotte, N. C., has been settled and the striking employees have been put back to work in groups as the machinery was put into operation.

Dontex Company, Inc., New York City, has been incorporated with capital of 100 shares of stock, no par value, to operate a local knitting mill, and plans are made to begin production at an early date.

It is reported that Arthur K. Deal is interested in the organization of the Collinsville (Ala.) Hosiery Mill, which will manufacture full-fashioned hosiery.

Rainbow Knitting Mills, Inc., Bayonne, N. J., have been organized with a capital of 1,000 shares of stock, no par value, and plan early operation of a local mill.

Belnap Mills, Inc., Manchester, N. H., have made plans for the installation of Diesel engines to supplement existing power now supplied by three 100-hp. turbines.

A fire of unknown origin completely destroyed the Abbeville (Ala.) Hosiery Mill on November 14. It is understood that the plant will be rebuilt shortly.

National Silk Hosiery Mills, Inc., Indianapolis, Ind., will build a new one-story addition, 73x74 feet, to cost $25,000 with equipment.

Alba Knit Company, Inc., New York City, has been chartered with a capital of $20,000 to manufacture knit goods.

Esmond Knitwear Corporation, New York City, has been organized to manufacture knit goods.

J. E. Shields will start a new hosiery mill at Murphy, N. C., and the building is said to be already erected.

Society Maid Hosiery, Inc., New York City, has changed its name to S. M. Hosiery Company, Inc.

The SINKER WITH THE PATENTED HARDENED THROAT

AND THE

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OUR RECONDITIONING SERVICE
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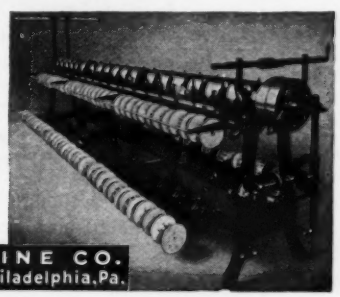
For efficient multiple-spool winding with uniformly smooth lay. Wooden or paper spools. Winds from barrel or pin swifts, cops, cones, etc. Write for catalog.



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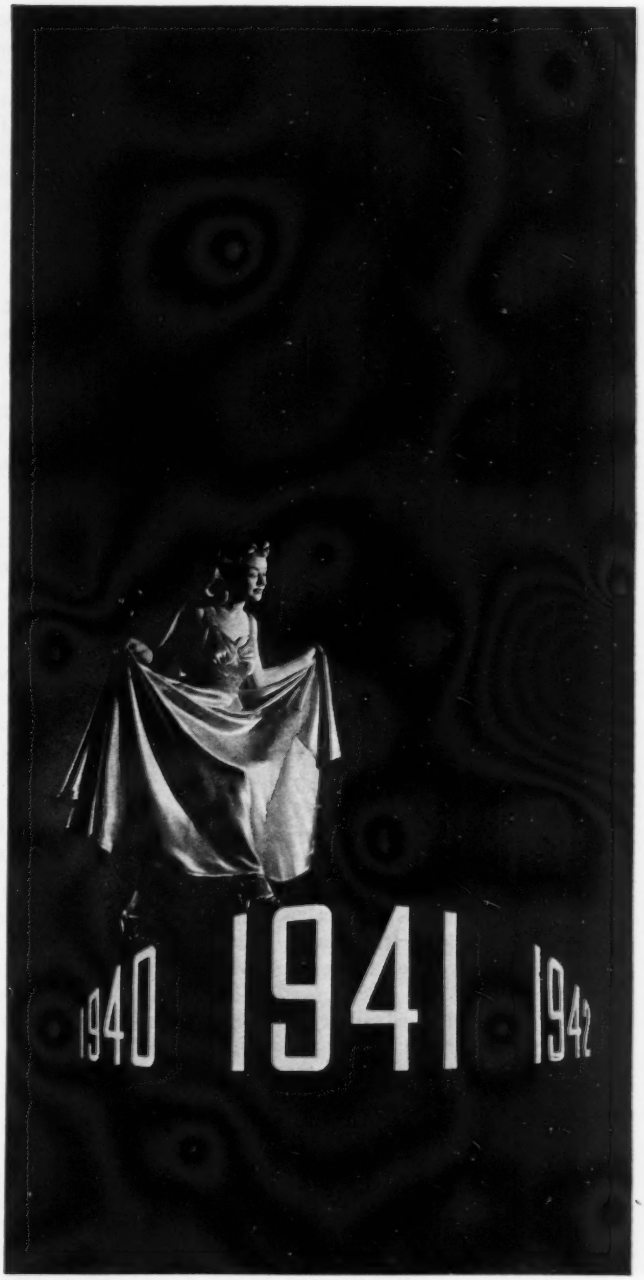
3908-18 Frankford Ave., Philadelphia, Pa.



A Herbert Daniel Hayman Illustration • Gown from Bonwit Teller, Phila.

Months . . . Seasons . . . Years . . . Throughout, a one consistent, persistent demand: If it's hosiery flatteringly dull and sheer appearing, in texture exquisitely fine and sleek—if it will wear and wear, resisting snags and pulls—IT SELLS! *And, that's why*

THE LEADING BRANDS ARE DuraBeau* *FINISHED*

DuraBeau Hosiery Finishes • Product of Scholler Bros., Inc. Mfrs. of Textile Soaps, Softeners, Oils, Finishes • Collins & Westmoreland Sts., Phila., Pa. • St. Catharines, Ont., Can.
**DuraBeau is a trade mark registered in U. S. A. & Canada.*

mills will shortly begin preparing lines for the fall season of 1941 which merchandise will come fully under the operation of the new law.

Form Group To Fight Knit Cloth Patents

A move being directed to forming an organization of rayon and other circular knitters with a view to fighting nuisance knitted patents got under way at a New York meeting attended by a number of knitters. While patents on knit fabrics were discussed generally it was indicated by several persons attending that the particular patent which crystallized the interest in the meeting was the recent one granted for "Pucker Cloth". According to persons in the trade the particular patent which came up for discussion was that granted to David Siegel, No. 2,219,240 on October 22, 1940. Mr. Siegel's company through advertisements on November 14 warned against infringement of this patent.

Branded FF Prices For Spring Unchanged

Prices on women's branded full-fashioned hosiery for spring 1941 will be announced shortly and the trade believes that little change will be shown from the present lists. Retention of $6.00 as the base price is generally looked for with possible minor adjustments in the higher brackets. With prices of raw silk below the levels of late spring when branded full-fashioned manufacturers set $6.00 as their minimum for fall, no increase is looked for in finished hosiery quotations although many manufacturers in the Pennsylvania area still contend their margin of profit continues to be small. Principal interest in the new branded lists center about nylon numbers, whether they will be increased or whether silk brackets will be adjusted further to meet competition of the new stockings. It is expected there will be a wider color range in the nylon end of the business where at present the color range is restricted to relatively few shades with each manufacturer.

Outerwear Group Elects Korzenik as Secretary

The National Knitted Outerwear Association has elected Sidney S. Korzenik as executive secretary and counsel. Mr. Korzenik has been connected with the Association for many years and succeeds Harold R. Lhowe, formerly executive director and counsel who severed his connections with the group about a year ago. The new action by the Association creates a new title and broadens the powers of Mr. Korzenik who has been acting as head of the Association since Mr. Lhowe stepped down. The directors were informed that many more mills will now be able to bid on Government defense contracts as a result of the broader specifications worked out by the Industrial Mobilization Committee after conferences with Army and Navy procurement officers and National Defense Commission officials. Specifications of Army and Navy knit goods requirements have been changed to conform with capabilities of existing industry equipment. This program has the double purpose of facilitating the military procurement programs of both services and of causing the least possible obstruction to merchandise deliveries against regular civilian needs. The Association has also completed formation of a special panel of arbitrators and adjustors designed to handle disputes and controversies within the knitwear industry and avoid court litigation. In the case of a dispute both parties will be asked to select one or three names from the panel. The men named will be asked to hear the evidence, attempt to adjust the matter or make an award.

Claim U. S. Hose Undersold in S. A.

A successful export business has been built up by Argentine producers of hosiery in the last ten months with Peru, Colombia, Bolivia and several other Latin countries whose shipments from Europe were stopped by the blockade. Argentine hosiery finds a ready market particularly in the Pacific Latin American countries and this inter-South American trade is not handicapped by foreign exchange difficulties. In addition Argentine price offerings are in proportion with the standard of living prevailing in most of the Latin states. It has been claimed these advantages enable Argentine stockings to compete successfully with American stockings, the latter facing in many Latin countries exchange difficulties and the odds resulting from the higher price level in the United States.

Argentine producers point out they not only can beat American prices but their hosiery is also superior in quality to the stockings offered by the United States in Latin countries. The Argentines claim they are using better yarns than their American competitors, imported chiefly from Holland, Switzerland, Germany and England until the war. Now Britain is the only source of supply open to Argentine mills which buy the best English hosiery yarns so that the quality of hosiery exported, in the opinion of the Argentines, can well compete with stockings exported by American manufacturers to these countries.

Nylon Reinforcement in Half-Hose

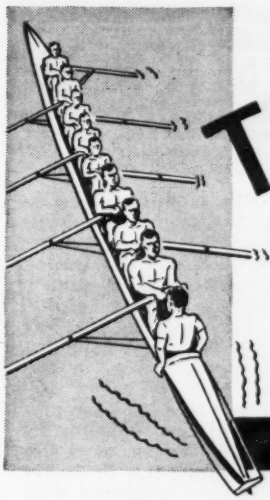
It is felt that the use of nylon reinforcements in the toes and heels of men's socks may turn out to be a development of importance in the men's half-hose business. Mills which have used a very small amount of nylon yarn for such purpose report results which have surprised even nylon enthusiasts. Such reinforcing at the points at which most men wear out their socks has given substantially increased wear according to manufacturers. Men's half-hose reinforced with nylon yarn in the toes was recently advertised at four pair for $1.00 while other retailers throughout the country have been promoting socks with nylon reinforcements from 35 cents to 50 cents a pair.

Canadian Nylon Unit Near Kingston, Ontario

A 100-acre site, two miles west of the city limits of Kingston, Ontario, fronting on Lake Ontario has been selected by Canadian Industries, Ltd., for its proposed plant for the manufacture of nylon yarn. Preliminary construction will be undertaken immediately but it is not expected that production will commence until the fall of 1941. Certain basic engineering requirements influenced the choice of Kingston which is convenient to a large supply of proper water and it is also centrally located with regard to the silk industry in Canada which the new nylon yarn will supply. Nylon stockings are already on sale in Canada but they are of United States manufacture. It is believed that Canada would not place an embargo on silk stockings such as has already been done in England.

Slack Socks Feature Of Half-Hose Trade

Although shipments of all types of half-hose dropped more than 4 per cent during the first ten months compared with the same period a year ago shipments of the shorter length socks during the same period gained slightly. Shipments of the slack length socks now account for about one-third of the volume of the regular length half-hose and indications are the coming spring season will see further gains in this connection. Hosiery jobbers report that for the first time they are selling considerable slack length goods during the cold weather both in the wool and other type socks. It is further reported that several smaller knitters are turning their complete equipment over to the production of the short length goods for the spring season, discontinuing altogether the regular length lines.



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COORDINATE THE SALES APPEAL IN *Your* PACKAGING

Old Dominion maintains an art department and a creative staff for developing both individual and coordinated package designs. This service is yours without obligation.

Teamwork in the packaging of a line of products is as productive of success as it is in a crew race.

Each unit contributes its share to attaining the ultimate objective — mass brand recognition.

Through coordinated packaging the effect of advertising is carried over from advertised to non-advertised items.

Old Dominion Box Co., Inc.
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Martinsville, Va. Charlotte, N. C. Kinston, N. C.
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A Water Softener with

EXTRA POWERS

Of all the alkalies (*uncombined*) THAUMAPHOS alone in water solution has the power to hold in *solution* the calcium and magnesium hardness.

When used with alkalies that *do* form a precipitate, THAUMAPHOS peptizes the precipitate, causing the minute particles to remain in a state of suspension, and easily rinsed out, rather than to coalesce and form larger particles which drop to the bottom forming a troublesome sludge.

(In 425 lb. bbls., 125 lb. kegs, 200 lb. bags)

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THAUMAPHOS
WONDERFUL PHOSPHATE
(TETRA SODIUM PYRO PHOSPHATE)

DETERGENT PRODUCTS CORP.
Division of
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Plants: Wales, Tenn.; East Point, Ga.; Chicago, Ill.

STYLE 20.

Business Epics
Come and Go, but

LANE BASKETS

Go On and On

45 YEARS OF

Acceptable Service in the Textile Field

W. T. LANE & BROS., Inc.
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Laurel

EMULSIONS AND SOFTENERS FOR KNITTING YARNS

- *Better Quality*
- *Better Knitting*
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LET US tell you about Laurel Emulsions and Softeners and how their application gives your yarns better knitting qualities . . . better softening, lubricating, conditioning, twist setting of processed or grey, carded or combed knitting yarns. Backed by over 15 years' experience in the treatment of cotton yarns for leading processors and spinners.

Laurel SOAP MANUFACTURING COMPANY, INC.

Wm. H. Bertolet's Sons Established 1909
2600 E. Tioga Street Philadelphia, Pa.
Warehouses: Paterson, N. J. Chattanooga, Tenn. Charlotte, N. C.

TRENDS—YARN MARKETS

All Yarn Prices More Stable Over Last Month but Further Increases Occurring in Cotton — Rayon Knitting Cones Brought into Line with Weaving Types—Worsted Knitting Yarns Unchanged—Silk Prices Steady—Deliveries at High Point.

Philadelphia, December 16, 1940

ONLY important price changes in yarn prices this month have been additional, but not great advances, in cotton yarns and a bringing into line of oiled rayon knitting cones with prices of the same deniers in the weaving end. Silk has been almost stationary over the month, showing evidence of the desire of Japan to prevent any great change in the current level and also fear of competition from the man-made fibers such as nylon. Wool prices have been strong but spinners are using more foreign wools so that as these are cheaper than domestic there have been no important changes in such yarns. Large amounts of the wool cotton merino type yarns have been sold for Army socks and underwear and large amounts of mercerized and single combed yarns have been sold for military socks and underwear.

Cotton Yarns

New business in cotton yarns has been at a much slower rate during the last month and while prices have advanced slightly the increases have been at the most conservative pace since the upward movement began. Although new business has been slower shipments on old contracts have been at the most active rate of the year and there are some spinners, particularly in the combed section, that are producing at the peak rates for all time. Sales spinners as a whole have advance business on their books to run them two or more months ahead and with several being sold even farther ahead but there has been a general unwillingness to take a great deal of new business for delivery beyond the end of the first quarter of 1941. They feel that this policy will be of benefit to both buyer and seller in the long run, preventing an artificial rise in prices through manufacturers covering their needs too far ahead as was true in the early part of 1937.

As in some other lines of industry bottlenecks have developed in the sales yarn trade largely on account of heavy buying of military garments and fabrics and in such spots deliveries are very tight for the next two or three months. Combed yarns and especially two-ply are an example of this in view of the fact that very large quantities of this type yarn are being used in Army and Navy fabrics. Single combed yarns are also affected by this development but deliveries in these are not as tight as in the two-ply where production is limited by the capacity of the twisters. This affects mercerizers that in many cases have enough forward business to step up their production but are unable to do so because of their inability to secure larger shipments of two-ply combed yarn. During the last month large amounts of cotton knit underwear have been purchased by the Army Depot with such garments requiring single combed yarn.

Carded knitting yarns have advanced about one-half cent during the last month but during the first half of December some spinners finding their backlog diminishing began to solicit new business more actively so that they were willing to sell again on the basis of 22½ cents for 10s carded cones which was the same price they were quoting a month ago. A somewhat similar condition was experienced in single combed knitting yarn which spinners a month ago were quoting on the basis of 35 to 36 cents for 30s single. Early in December several spinners had raised their prices up to 37 to 38 cents but by the middle of the month knitters claimed they were able to buy freely at 36 cents and in one or two instances at 35½ cents which is very close to the level of a month ago. Mercerized yarns advanced late in November 3 cents a pound making 60s two-ply ungassed 73 cents. Not much new business has been placed at this level as knitters are well covered at a considerably lower price level.

Silk

Raw silk again has moved within a very narrow price range over the last month. Prices do not show more than a few cents difference at any time during the last four weeks and in view of this stability indications are fairly definite that manufacturers of women's full-fashioned hosiery will name prices generally unchanged on such merchandise for spring. The American hosiery industry has been consuming silk at a more active rate but there has been no tendency for them to indulge in excited buying of this commodity. Trade opinion is that the current level for raw silk is about what the Japanese Government has in mind and another angle is that the hosiery industry is watching the production of nylon hosiery expand from month to month but even yet the consumer demand is far from satisfied.

So that with nylon competing more and more with silk, manufacturers do not believe that the animal fiber will increase in price in the near future. Imports of raw silk into the United States during November reached new highs for the year as a result of the tension which developed in the Far East early in October. Raw silk arrivals into the United States in November amounted to 48,407 bales. Reflecting the higher rate of hosiery production and the continued stocking by manufacturers and dealers raw silk mill takings reached a total of 36,374 bales during November compared with 39,877 bales in October and 32,241 bales in November a year ago. As a result of the heavy arrivals during November stocks in New York on December 1 totaled 60,330 bales, the highest supply figure since February, 1936.

Rayon

Demand for rayon yarn continues heavy and the upward readjustment in prices of 150 denier oiled knitting cones initiated by one large producer has become general throughout the market. A majority of knitting yarn producers expressed regret that the revision in price had not been made before the industry was booked up on production of these yarns through January. The narrowing of the differential between 150 denier knitting and weaving yarns was regarded as a healthy sign. Rayon filament yarn shipments to domestic mills in November amounted to 25,000,000 pounds compared with 36,900,000 pounds in October and 33,300,000 pounds in November 1939. Shipments for the eleven months of 1940 have totaled 355,100,000 pounds as compared with 330,400,000 pounds in the corresponding months of 1939, being an increase of seven per cent. Stocks held by producers at the end of November amounted to 6,200,000 pounds.

Worsted Yarn

Shipments of worsted knitting yarns continue large which is unusual this late in the year. Normally manufacturers are between seasons but this year retailers are placing rush orders with the knitters which in turn make it necessary for spinners to continue rush yarn shipments. The main reason for this continuing so late is that retailers greatly under-estimated consumer demand for all types of outerwear so that they are making the best of this situation by a last minute rush. Although wool prices have been strong again this month advances have been relatively small and prices of worsted knitting yarns show no change of importance over the month. Knitters are not placing much new business but are content to specify on old yarn contracts. There has been a continued demand for Red Cross and relief hand knitting yarns and some knitting yarn spinners in this district are running mainly on this type goods. The trade expects an early start right after the first of the year on the spring goods.

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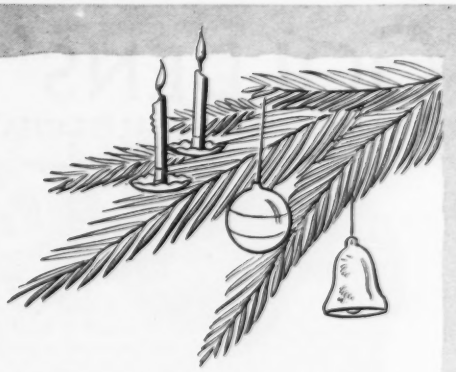

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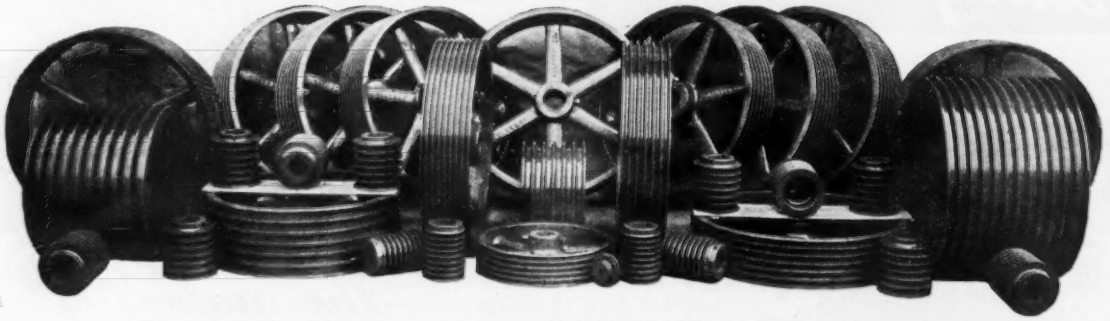

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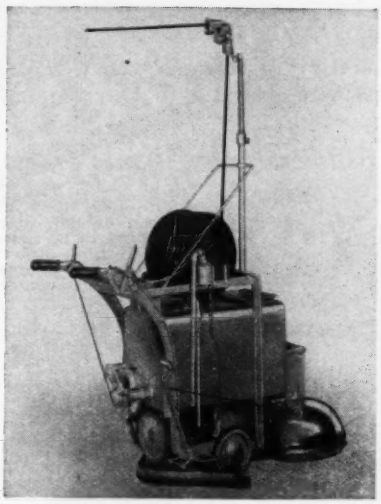

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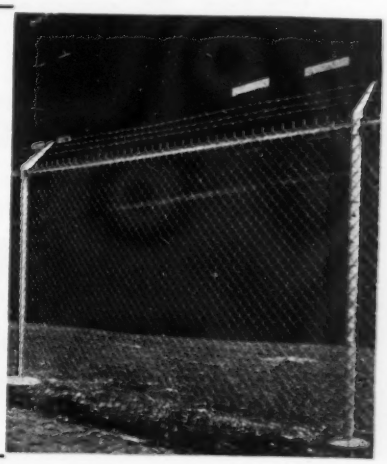

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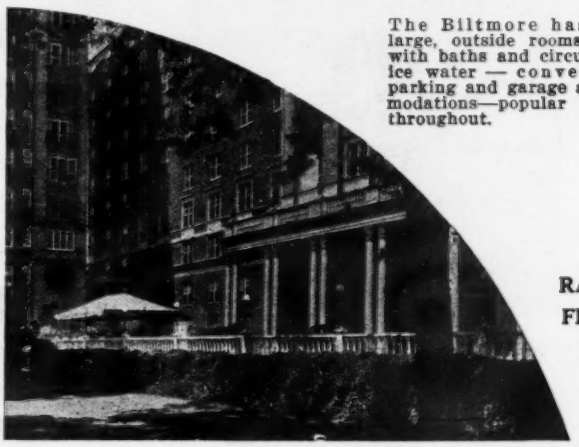

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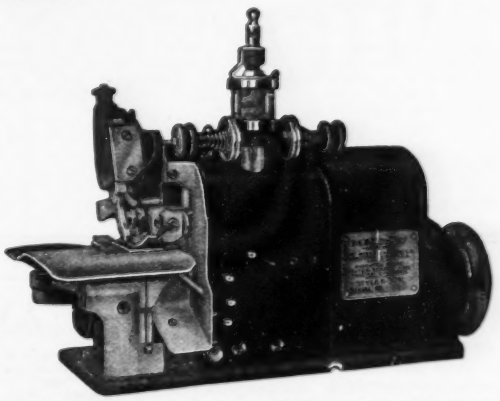

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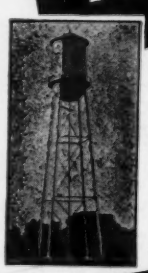

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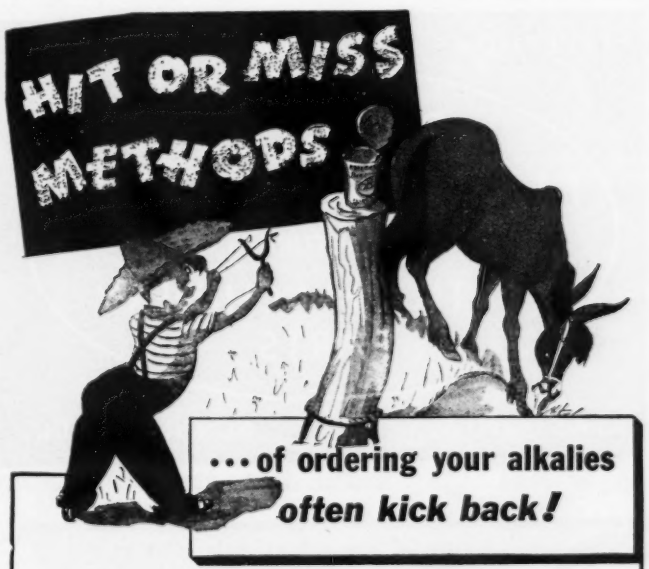

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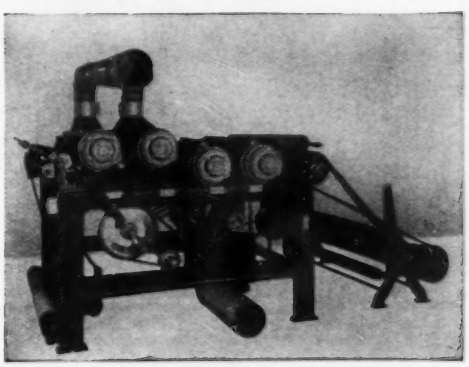

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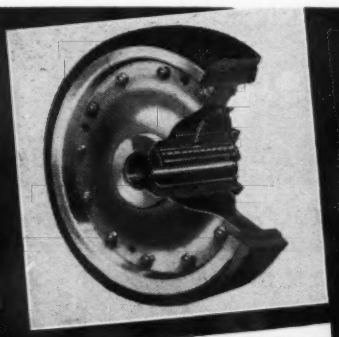

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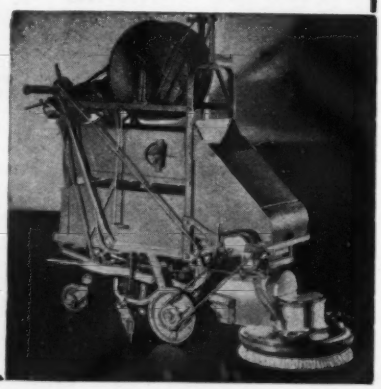

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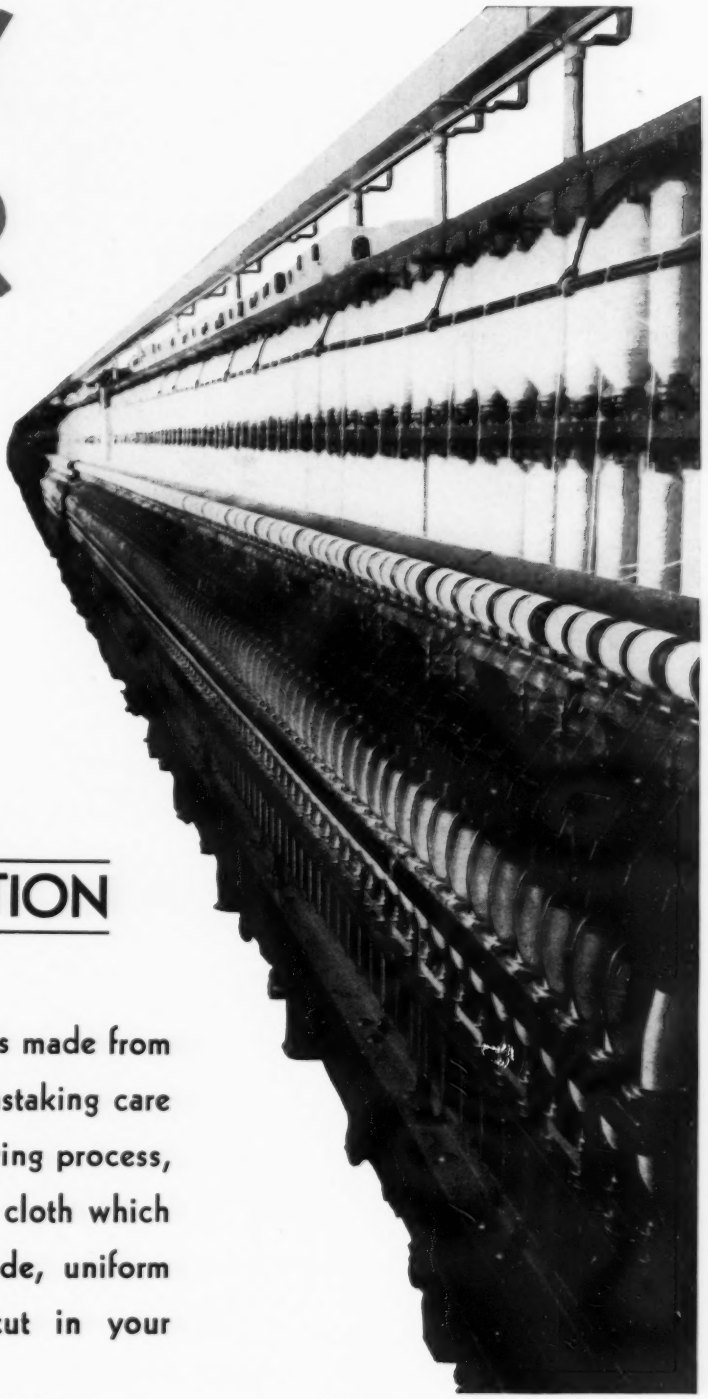

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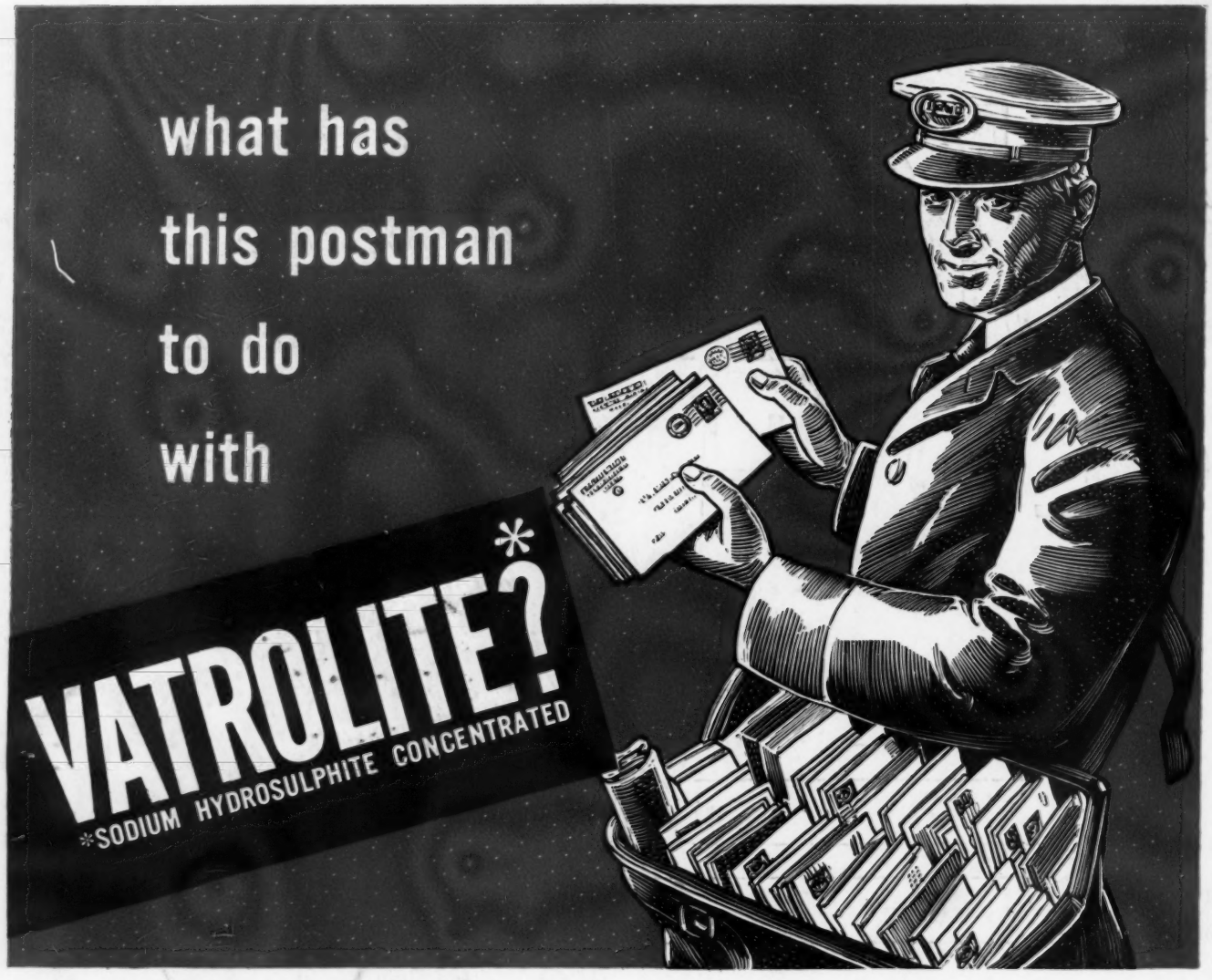

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